PAPER TRADE JOURNAL

VOL. 122 NO. 19 MAY 9, 1946

60th YEAR
1886—1946

In 1886 . . .

Louis Pasteur, a chemist, founded his famous Pasteur Institute in Paris. Thus began, sixty years ago, one of the great boons to humanity.

Since time immemorial, Paper likewise has been serving mankind—in myriad ways...And for sixty years, our Company has been an active participant in helping develop the Pulp and Paper Industry to its present vast proportions.

GOTTESMAN & COMPANY
— INCORPORATED —

WOOD PULP

22 EAST 40th STREET • NEW YORK 16, N. Y.
EUROPEAN OFFICES: Birger Jarlsgatan 8, Stockholm, Sweden

Mai[illegible] Mills Protest Stoppage, Face New Record
Amb[illegible]dge and Smith Head Abitibi Operation
CPA [illegible]pproves Riegel $6,300,000 Acme Plant
NPT [illegible] To Resume Annual Fall Convention
11,000 Tons of Liner Monthly for Gypsum Board
Wallpaper Stockholders Sanction Expansion
Fibre Drum Industry Sets Up Association
OPA Eases Pulpwood in Restricted Area

Good for the Hardest Beating *Means Extra Good for Anything Else*

Showing fly bars partly inserted

Rag stock has been the downfall of many a beater roll, but for Downingtown Bandless Rolls, it has merely served to show how good they are. In one mill alone, over a period of years, Downingtown Bandless Rolls have prepared the rags for well over a million tons of felt, and this was in the days when felt was mostly rags. That's a lot of tough chewing. Moral: With "easier to beat" fibers, Downingtown Bandless Rolls last and last and last. Close to 500 of these rolls have been installed in mills making all kinds of paper. Of course they can be put in any beater, yes, even built on your old shafts. If you want to put in a roll you can forget for a long, long time, write us.

DOWNINGTOWN MFG. CO., DOWNINGTOWN, PA.

DOWNINGTOWN **D**

Designers & Builders
Paper Making Machinery

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.
Established 1872

Volume 122 Number 19

Published Every Thursday by Lockwood Trade Journal Co., Inc.

Executive and Editorial Offices:
15 W. 47th St., New York 19, New York

GEO. E. LOCKWOOD, *President & Treasurer*
ARTHUR E. GORDON, *Vice-President*
JOSEPH P. HORGAN, *Secretary*
W. L. COOK, *Editor*
HARRY I. JENSEN, *Assistant Editor*
R. G. MACDONALD, *"TAPPI" Editor*
F. B. GROSSE, *Make-Up Editor*

Eastern Representatives
BRUCE E. BROWN, *15 W. 47 St., New York 19, N. Y.*
EDWARD H. DOERING, *15 W. 47th St., New York 19, N. Y.*

Mid-Western Representatives
H. K. VINTON, *123 W. Madison St., Chicago 2, Ill.*
A. F. MACDONALD, JR., *Cleveland, Ohio.*

Pacific Coast Representatives
ROY M. MCDONALD & CO.,
San Francisco, 4, Cal., 584 Market St.
Los Angeles, 6, Cal., 1323 Venice Blvd.
Seattle, 1, Wash., 1411 Fourth Ave.

Representative for Denmark, Norway, Sweden and Finland
OXFORD TRADING AKTIEBOLAGET, *Bibliotekgatan 6-8, Stockholm, Sweden.*

Subscriptions: (Payable in advance) By the year $4.00; Single Copy 10 cents.
Postage Extra: To Canada $2.00; To Other Foreign Countries $3.50.
Member Audit Bureau of Circulations.

PAPER *established Feb. 17, 1899, combined with* PAPER TRADE JOURNAL *Nov. 16, 1899,* PAPER *established Sept. 21, 1910, combined with* PAPER TRADE JOURNAL *Feb. 19, 1926. All rights to the above titles reserved.*

PAPER TRADE JOURNAL *is entered as Second Class matter at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. Publication Office at Lockwood Trade Journal Co., Inc., 34 N. Crystal St., East Stroudsburg, Pa. Printed in U. S. A. Copyright 1946 by the Lockwood Trade Journal Company, Inc. The contents of* PAPER TRADE JOURNAL *including all articles, illustrations, etc., are covered by copyright and may not be reprinted except by permission.*

CONTENTS

MAY 9, 1946

Maine Mills Protest Stoppage 7
Chillicothe Learns of New Plant Approvals 7
NPTA Resumes Fall Convention 7
Zellerbach Denies Patman Violation 8
Ambridge and Smith New Abitibi Heads 8
Gypsum Industry to Receive 11,000 Tons of Liner Monthly 10
British Columbia Production Reaches Record 12
Union Bag Doubled Net in First Quarter 16
B. C. Mills Reduce Loss From Waste 22
Wisconsin Valley Plans Safety Conference 22
Fibre Drum Industry Organizes Its Group 24

Financial News 16
Market Review 48
Imports 54
Editorial 34
Production Report 35
Miscellaneous Markets 50
Market Quotations ... 50
Classified Advertising.. 56

Technical Section *("TAPPI")*

TAPPI Notes 35
Tensile Strength of Paraffin Waxes 37
United States Patents of Paper Making 46
Empire Tappi Meets in Fulton 48
New Tappi Members 48

PAPER TRADE JOURNAL IS INDEXED IN INDUSTRIAL ARTS INDEX

INDEX TO ADVERTISERS ON PAGE 68

MEISEL MACHINERY IS HELPING IN ALL FIELDS

Cigarette **Wax** **Photographic** **Jet Propulsion**
Condenser **Grease Proof** **Snap-out Forms** **Aero-engine Parts**

MEISEL PRESS MFG. CO. **950 Dorchester Ave., Boston**

PAPER · · · America's 6th Industry

PAPER BAGS FOR VACUUM CLEANERS

(NEWS ITEM: *A paper filter bag for vacuum cleaners is helping to take the work out of housework.*)

The newest of streamlined household appliances is a vacuum cleaner with a paper filter bag inside the regular vacuum bag. Attached to the exhaust end of the cleaner, the paper bag gathers all the dust for easy and clean disposal. Unlike ordinary vacuum cleaners which require cleaning after each use, this airtight bag can be used as long as six weeks without danger from germ-laden dust.

Paper packaged fuel . . . paper cartons for light bulbs . . . paper baking dishes . . . paper paint cans . . . New uses for paper calling for new standards of lightness and toughness, new standards of quality in performance. New responsibilities—new opportunities for the Pulp and Paper Industry.

The Puseyjones Organization is now devoting itself completely to the design and construction of Paper-Making Machinery built to new high standards of speed and efficiency, and to the modernization of existing machines.

Among the new machines under construction by Puseyjones are three of the largest and fastest Fourdrinier Machines, one for book and high grade printing, one for white paper for bags, and one for Kraft liner board; also one Cylinder machine of record size and speed for the manufacture of floor covering felt. Other machines are under construction for the manufacture of M. G. Kraft specialties, facial tissues and high grade bristols.

Puseyjones Engineers will welcome the opportunity to work with you in solving production problems.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U. S. A.

THE SIGN OF TRADE MARK SUPERIOR QUALITY

PAPER TRADE JOURNAL

Vol. 122, No. 19 May 9, 1946

Title Reg. U. S. Pat. Off.

Chillicothe Learns of New Plant Approvals

CHILLICOTHE, Ohio—New construction and improvement programs totalling more than $2,500,000 for the Chillicothe Paper Company and the local Mead Corporation plant, will be achieved respectively in 1947 and 1948, barring unforeseen events, it was learned last week. The information was forthcoming following announcement by offices of the Civilian Production Administration at Columbus that the two paper companies' requests for clearances for new construction, remodeling and repairs had been approved. The items listed by the CPA were:

"A $1,012,200 construction and remodeling project at Mead paper manufacturing company; a $285,000 construction and remodeling project at the Chillicothe Paper Co."

Four Major Projects for Mead

Division Manager Howard E. Teter of Mead Corporation explained that the clearances covered a program of four major items, the plans for which include:

Remodernizing and rebuilding one of the plant's large paper machines installed in 1921; building an extension to the finishing room to increase capacity; building an extension to the paper storage building in order to better service the new grades of paper being developed and produced here: revamping and remodeling the plant's electrical power distribution system.

Mr. Teter explained that none of this work has been started and that many of the items needed in the program will require at least two years for delivery. The time for such deliveries depends upon the country's production program generally and even more time may be required on some items if general production is hampered by a continuation of present strikes or the threat of new ones.

Part of Chillicothe Program

President Austin P. Story of the Chillicothe Paper Co. explained that the $285,000 item mentioned in the CPA report is a part of the company's $1,500,000 program for new construction, extensions and improvements now under way.

Work on the finishing room was in progress when the ban on materials for construction went in effect, so it was not involved in the restrictions at the time. Clearance on the $285,000 item gives the green light for the next step in the program, the construction of the new machine and beater rooms.

News of the clearance "is good news", President Story stated.

Rounding out the program at the Chillicothe Paper Co. will be the installation of a new power plant. The work is being done by the Austin Co., of Cleveland, the firm that built the original plant 26 years ago.

The series of improvements at the Chillicothe Paper Co. plant will increase the capacity of the local mill at least 60 percent and add approximately 100 more to the payrolls.

Maine Mills Protest Stoppage Facing Record Production

PORTLAND, Me. — Leading paper manufacturers of Maine facing the largest year's output in the state's history, joined textile makers this week in protesting to Maine's Congressional delegation the imminent drastic curtailment of production in consequence of coal shortages. A spokesman for the Oxford Paper Company at Rumford estimated supplies at that plant were inadequate to finish production in May while officials of the S. D. Warren Company, operating three mills, reported their supplies equal to May schedules. They added, however, that decreased railroad facilities and slowness of chemical shipments from the shortage would hinder production despite fuel reserves.

The Great Northern Paper Company faced a "probable shutdown," according to firm heads, unless the coal strike is settled soon. Full operation for their plants was not predicted after May 15.

Supplies of soda and sulphite bleached pulp for manufacturers of book and writing papers were also slated for reduction according to the manager of the Penobscot Chemical Fibre Company Mills at Great Works. He predicted the firm's customers would feel the pinch in these products in three weeks, the limits of full operation seen on present coal supplies.

Leading Maine manufacturers expect to produce the largest volume of paper in the state's history according to a survey revealed here. Several stated "we can handle only 40 to 65 percent of the new business offered us for delivery in the final quarter of the year."

CPA Approves Riegel Plan For $6,300,000 Plant at Acme

WILMINGTON, N. C. — The Riegel Paper Company has been granted permission by the Civilian Production Administration to construct a special paper plant near Acme. Officials of the CPA in Washington indicated that the cost of the factory was estimated at $6,300,000 in the application. The request for permission to build the expensive plant has been before the federal agency for some time and bore the endorsement of several Wilmington business leaders and organizations.

"Although the CPA has approved the construction," Vice-President Walker Hamilton explained, "approval was only one of several necessary steps in establishment of the plant and did not mean an early start in the construction." Mr. Hamilton went on to say that the Riegel company, which now has an office at Bolton, owns approximately 140,000 acres of Brunswick and Columbus county woodlands in the general vicinity of Acme.

NPTA Resumes Exhibits At Fall Convention

CHICAGO—The Fall Convention of The National Paper Trade Association, regularly held in Chicago, but discontinued through the war period, will be resumed this year. The dates are November 4-6, at the Palmer House. Arrangements have been made with the Hotel to reserve one floor for Room Exhibits of Paper and Paper Products which will be conducted under the auspices of the Association.

British Columbia Pulp Plans Plant Expansion

WOODFIBRE, B. C.—Installation of a new power plant, as well as a hydraulic barking plant, will be carried out this year by the British Columbia Pulp & Paper Company, Ltd., according to Lawrence Killam, President. While the market demand for this company's product continues far in excess of plant production capacity, Mr. Killam states that during the past year the company was compelled to hold down production to 80 percent of capacity due to shortage of supplies.

Zellerbach Denies Patman Violation

WASHINGTON, D. C.—Crown Zellerbach Corporation, San Francisco, and its wholly owned subsidiaries, Zellerbach Paper Company, San Francisco, and General Paper Company, Los Angeles, have filed a joint answer denying material allegations of a Federal Trade Commission complaint charging them with violation of section 2 (f) of the Robinson-Patman Act by knowingly inducing and receiving discriminatory prices from sellers of paper and paper products.

The corporations, large distributors of paper and paper products in the West, deny the allegation that they have knowingly induced manufacturers, jobbers and distributors to allow them on their purchases special discounts and commissions which are not granted to their competitors. The price discriminations referred to in the complaint, the answer declares, made only due allowance for differences in the cost of manufacture, sale or delivery resulting from the differing methods or quantities in which such commodities were sold or delivered to the respondents and the other purchasers involved in the alleged discriminations.

All or some of the alleged discriminations, the answer continues, resulted from lower prices made to purchasers, including the respondents, in good faith to meet equally low prices of competitors of the sellers, or from price changes in response to changing conditions affecting the market for or the marketability of paper and paper products, or from services or facilities furnished by the respondents to the sellers.

The respondents aver that the effect of the discriminations alleged in the complaint did not lessen competition substantially or otherwise, and did not tend to create a monopoly or to injure or prevent competition with any person who either granted or knowingly received the benefit of such discriminations, or with the customers of either of them.

Hearings will be held in due course.

Weldon Discovers Trend to Further Price Increases

MONTREAL—At the annual meeting here of the Bathurst Power and Paper Company, R. L. Weldon, president, said that with the rise of $8 per ton in U. S. funds in the price of unbleached sulphite pulp in the United States, all the products of the company had been granted moderate increases. The effect was to offset partially the large increases which had previously taken place in wages, pulpwood and other supplies.

"Since the trend toward further increases in costs appears to be continuing," he remarked, "it follows that further price increases will also be required in due time." Referring to the annual report, he drew attention to taxes, adding that "the incidence of taxes continues to fall heavily on corporate shareholders, being almost double the net earnings of the company and almost equal to 24 percent of the total payroll."

Senator G. P. Burchill, of Nelson, N. B., was elected a director of the company, filling a vacancy left by the late F. J. Campbell. Senator Burchell heads the George Burchill and Sons lumber company in Nelson, and is also a member of the senate of the University of New Brunswick.

I. de Haan Joins E. de Vries As Far Eastern Specialist

Mr. I. de Haan, for thirty years identified with the paper field, has joined E. de Vries Company, New York city, world-wide exporters of paper. Formerly associated with the domestic as well as the continental and Scandinavian paper industry, Mr. de Haan has devoted almost his entire career to the development of the consumer paper market in the Near East, India and the Orient. As a specialist in the better grades of paper, he has traveled extensively throughout Egypt, Palestine, Syria, Iraq, India, Malaya, Netherlands East Indies, the Philippines and China, and has developed an intimate familiarity with the market and buyers in those countries.

Mr. de Haan will make his temporary headquarters at the New York offices of E. de Vries Company, after which he will leave for India and the Far East to establish branch offices and facilities in that area.

Reider Heads Victoria Mills Under Barclay Regime

FULTON, N. Y.—B. I. Reider has been elected president and general manager of the Victoria Paper Mills, following the purchase by Barclay Tissue Corporation of a major interest in Victoria. A new modern machine is on order for early delivery.

W. L. Forsythe, chairman of the board has retired and the new board of directors consists of Reider, J. K. Carroll, F. T. Joy, S. C. Hartman, and J. S. Hartman. The consolidation of the interests of these two long established companies in the tissue field is expected to strengthen the position of both companies and enable both companies to better serve their respective customers.

Syracuse Drills for Forestry Building

SYRACUSE, N. Y.—Drilling of test holes for the foundations of new building to be erected on the New York State College of Forestry campus is underway. The first test holes were made back of the pulp and paper laboratory and in the vicinity of the wood-working laboratory.

Ambridge and Smith New Abitibi Heads

TORONTO—Abitibi Power & Paper Company's receiver and manager, G. T. Clarkson and liquidator R. S. McPherson, were discharged last week by the court after nearly 14 years receivership. Key men in the reorganized Abitibi Power and Paper Co. are Douglas White Ambridge, president and William Herbert Smith, vice-president.

"Doug" Ambridge was born in Mexico City in 1898, where his father (a Canadian mining engineer) was interested in a U. S.-owned silver and copper mining property. He was educated at Lower Canada College and McGill University, Montreal.

Upon graduation in 1923, Ambridge joined Abitibi Power & Paper Company as control engineer at Iroquois Falls, Ont., where he was stationed for four years. When his chief, Robert McInnes, moved to Quebec to become general manager of Anglo Canadian Pulp & Paper Mills, Ltd., he took Ambridge along as control superintendent and then general superintendent. He also became assistant general manager of the associate company, Anglo Newfoundland Development Co.

In 1936 Ambridge joined Ontario Paper Co., Thorold, Ont., becoming vice-president and assistant general manager in 1945.

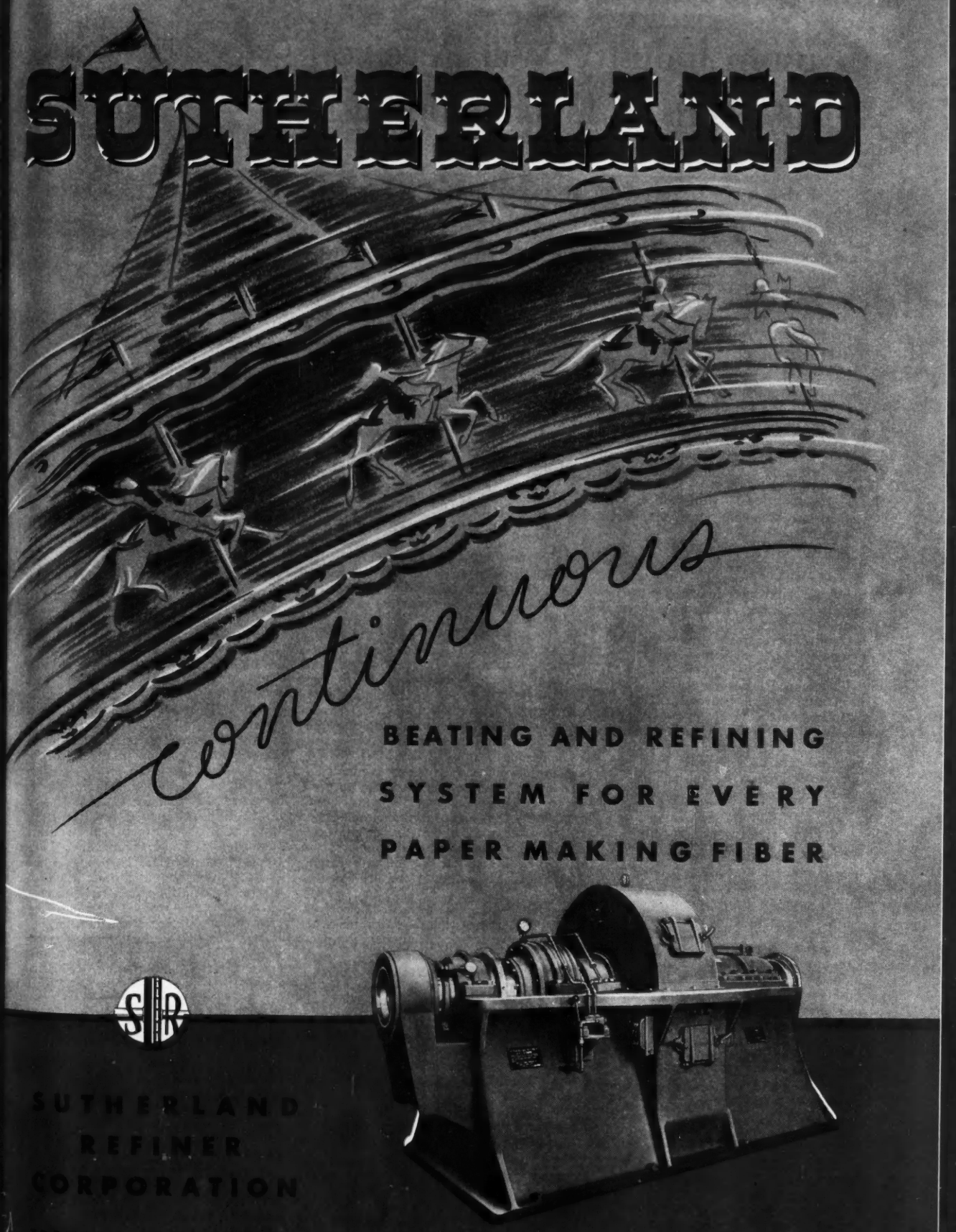
"Bill" Smith has been in the pulp and paper industry 34 years, of which nearly 32 have been with Abitibi. He also has been very active in the work of the Newsprint Association of Canada and the Canadian Pulp and Paper Association.

Born in England in 1888, Smith was brought to Canada when his father came to Montreal as a master in Westmount Academy, later to become principal of King's School and superintendent of schools at Verdun, Que. After being educated at Westmount Academy, young Smith started with W. R. Brock & Co., a wholesale dry-goods firm. In 1912 he joined Price Bros. & Co., as chief accountant at Kenogami, Que.

In the fall of 1914, Smith left Price Bros. to take charge of the accounting for Abitibi Power & Paper Co. There he rose rapidly, becoming a director and assistant managing director in May, 1930. When Abitibi went into receivership on Sept. 10, 1932, all titles were dropped. Since Jan. 1, 1935, Smith has borne the heavy responsibilities of operating head of the company.

A special general meeting of shareholders (other than the holders of 5% shares) has been called for May 21, for the first election of the four Class B directors. The four persons appointed to act as Class B directors by the liquidator are being recommended as directors by the shareholders' committee. They are: Messrs. E. W. Bickle, J. H. Grundy, W. H. Smith and J. S. D. Tory, K. C.

SUTHERLAND



continuous

BEATING AND REFINING SYSTEM FOR EVERY PAPER MAKING FIBER

SUTHERLAND REFINER CORPORATION

TRENTON, NEW JERSEY

Manufactured in the United States by Valley Iron Works Co., Appleton, Wis.

SUTHERLAND REFINER LIMITED, 511 DRUMMOND BLDG., MONTREAL P.Q. Manufactured in Canada By The John Bertram & Sons Co. Ltd., Dundas, Ontario

Gypsum Industry Will Receive 11,000 Tons of Liner Monthly

WASHINGTON—Maximum output of boxboard mills is of even greater importance now than it was during the war, J. D. Small, Civilian Production Administrator, said last week in a statement to the industry. Then, in a letter to the industry he asked its members to cooperate in increasing their production. At the same time he estimated that 11,000 tons monthly is needed by the gypsum industry.

"This industry holds one of the keys to American economic progress," he declared. "It unlocks the door through which many food and medical products, clothing and innumerable manufactured items pass from the producer to the consumer. During the war boxboard was extremely important, but much of our manufacturing volume went into articles of large size, such as aircraft, tanks and so on, which were packed for shipment by other means than boxboard.

"Now," Mr. Small went on, "with industry having largely reconverted to its peacetime products, the demand upon the boxboard industry for containers is greater than it has been in years. There is another need which is becoming increasingly acute, and which emphasizes the necessity for the industry's raising its output.

"That need is for paper liner to use in making gypsum board and lath, vital materials to the veterans housing program and to the construction industry in general. The same mills and raw materials are used to make both paper liner and boxboard for folding and set-up containers, as well as other paper products," Mr. Small explained.

Five Per Cent of Capacity

"I am now calling upon the boxboard industry to deliver to the gypsum products industry approximately 11,000 tons of paper liner a month. This tonnage amounts to above five percent of total boxboard production. Without this tonnage it will be impossible for the gypsum board and lath industry to fulfill its responsibility to the veterans housing program and to meet the needs of other essential building and repair activities.

"For 1946 we need an estimated 4,055,000,000 square feet of gypsum board and lath. About 160 pounds of paper liner are required to make 1000 square feet of this board and lath. The gypsum products industry has only enough capacity in its own captive paper mills to produce about half the required paper-liner—the other half must come from the boxboard mills."

March production of gypsum board and lath amounted to 240 million square feet, which was 15 percent above February. However, unless the March rate can be increased very greatly the supply of this board and lath will fall 29 percent short of satisfying the 1946 total construction requirements, and will have a crippling effect upon building.

The gypsum board industry is expanding its plant facilities, both for the production of board and lath and paper liner. But this expansion will take time and will not help in relieving immediate shortages.

"To get the gypsum board industry up to its present estimated capacity of 3,500,000,000 square feet, more paper liner is needed from the independent paper mills," Mr. Small said. "For the last five months the Civilian Production Administration has been issuing directives on some of these mills, requiring them to deliver a certain quantity of paper liner to gypsum board and lath producers.

"To equalize the demand upon mills for paper liner we have recently surveyed that industry, and are asking all boxboard mills which have the necessary equipment, to produce quantities of paper liner, in the national interest," Mr. Small declared.

"I am sending the following letter to all members of the boxboard industry, appealing for their assistance and cooperation toward making greater quantities of paper liner available to the gypsum products industry, so that vitally needed board and lath may be produced:"

Gentlemen:

The requirements of the construction program make it necessary to produce gypsum board and lath up to the capacity of the gypsum industry.

In order to do this, it is necessary to call upon the Boxboard Industry to produce liner board in tonnages far in excess of the amounts produced in the past.

To carry out this program directives are being issued today to all mills who have the necessary equipment to produce this material.

Due consideration has been given to the production of each mill and their historic position in this field but many mills who have not made liner board in the past are being called upon to participate in the program.

We have a hard task set for us to do and the utmost cooperation from the Boxboard Industry will be necessary if we are to bring it to a successful conclusion.

The Civilian Production Administration suggests that mills who have received directives may, if they wish, trade this tonnage with other mills for an equal amount of other grades provided they notify us in writing the details of the proposed exchange.

OPA Ups Pulpwood In Restricted Area

WASHINGTON — Increases ranging from 30 cents to $1.60 a cord, effective Monday of this week, have been allowed in producers' ceiling prices for pulpwood in Delaware, Maryland, West Virginia, Ohio, Kentucky, Indiana, Illinois and Missouri, by the Office of Price Administration. The increases, effective May 6 are discretionary and granted at the request of the Civilian Production Administration to help maintain needed supplies of pulpwood from these States.

Approximately eleven pulp mills purchase this wood and will absorb the price increases, OPA said. The mills produce container boards, paperboards, publication papers and other essential items. The new ceilings range from $8.30 to $17.20 a cord, depending on the type of wood and the area.

At the same time, the trucking differential in one zone comprising Indiana, Missouri and part of Kentucky is spelled out at $2 a cord, compared with former varying "freeze" amounts. The $2 uniform differential is similar to that already applicable in the neighboring area.

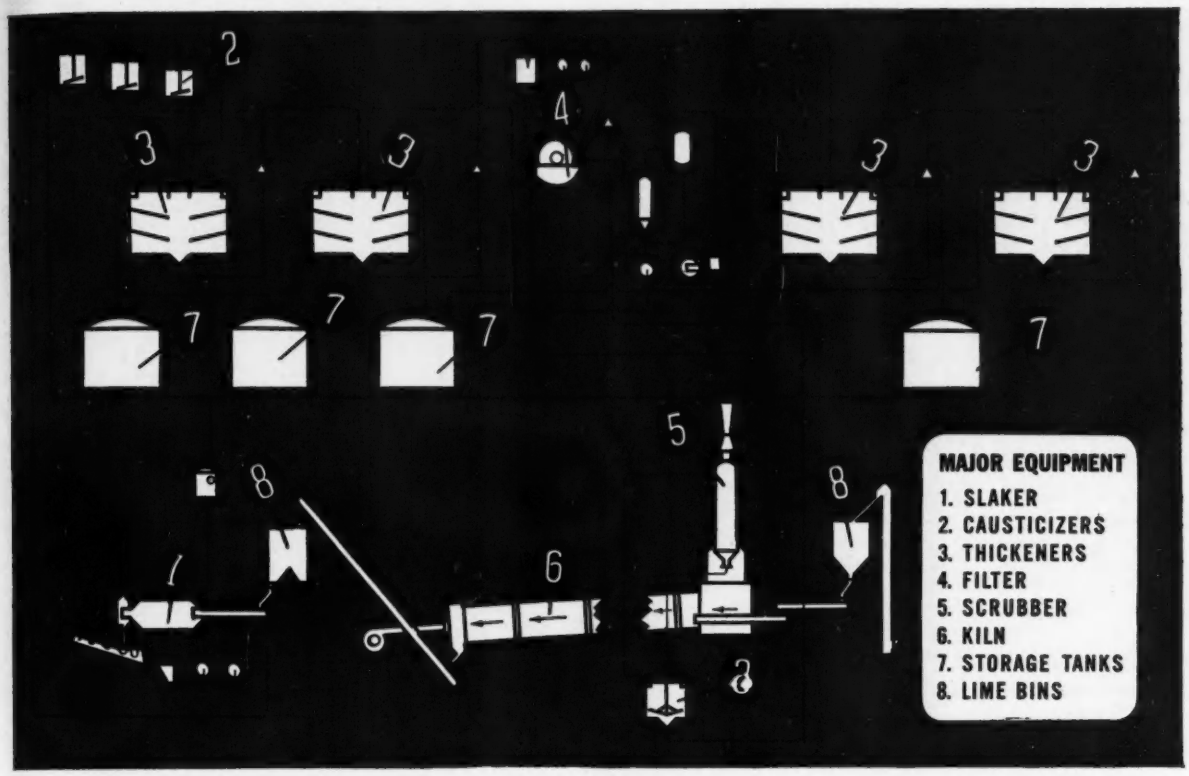
Q.M.C. Awards Certificates to Paper Trade Figures

CHICAGO—The Quartermaster Subsistance Research and Development Laboratory at the Chicago Quartermaster Depot has made known, through Colonel R. A. Isker, the award of the Certificate of Appreciation to well-known figures in the paper and allied trades. The Certificate is given for meritorious service in research and development phases of the Army's food program.

Included among the recipients of the coveted award are Peter J. Massey, H. P. Smith Paper Company; H. T. Barker, Bird & Son; George Sears, Institute of Paper Chemistry; L. S. Johnson, Hummel & Downing; Frank Pocta, Paper Shipping Sack Manufacturers Association; W. H. Graebner, Marathon Corporation; Reynolds Guyer, Waldorf Paper Products Company; R. G. McDonald, Technical Association of the Pulp and Paper Industry and Charles Southwick, Shellmar Products Company.

Professional Group Will Hear Dean on May 20

CHICAGO—The May 20 meeting of the Chicago Professional Paper Group will feature a talk on "Petroleum Products for the Paper Industry," by Dr. C. J. Dean. Dr. Dean is manager of the Socony Vacuum Lubricating Department, Process Products Section. Well known in his field, he is the author of a number of papers concerning the application of petroleum products to the manufacture and conversion of paper and paper board.



THERE IS MORE THAN EQUIPMENT
Contained in This Recausticizing Plant Layout

EQUIPMENT FOR PULP & PAPER MILLS

EVAPORATORS
DIGESTERS
BLOW TANKS
TURBO-MIXERS
FILTERS
KILNS
THICKENERS
STORAGE TANKS
BINS
SLAKERS

A General American Recausticizing Plant is the cumulative effort of pulp mill men, design engineers, metallurgists, and fabrication experts.

This assures a plant in which the various units work together to produce a high overall efficiency and low cost operation.

Equipment designed, fabricated, and installed, (when desired), under one supervision and one responsibility makes for superior performance.

Because all the major units; slaker, causticizers, thickeners, filter, kiln, bins, and tanks are all manufactured in our own shops, it is possible to schedule fabrication to coincide with your building program.

Ask for further information. Inquiries will be promptly and intelligently answered.

General American
TRANSPORTATION CORPORATION
process equipment • steel and alloy plate fabrication

SALES OFFICE:
516 Graybar Bldg., New York 17, N. Y.
WORKS: Sharon, Pa.; East Chicago, Ind.

GATX GENERAL AMERICAN

OFFICES: Chicago, Louisville, Cleveland, Sharon, Orlando, St. Louis, Salt Lake City, Pittsburgh, San Francisco, Washington, D. C.

Canada's Economy Drive Turns Sawdust to Pulpwood Use

MONTREAL—Pending the outcome of the Dominion-Provincial Conference which was in session during the past week regarding a widespread revision of taxing powers and more precise demarcation of the respective jurisdictions of the Dominion and the provinces in these matters, there has been no official reaction from governmental sources regarding the ten-point program put forward by the Canadian Pulp and Paper Association calling for federal leadership and a close inter-provincial tie-up in Dominion-wide measures for forest conservation.

Meanwhile public interest has been particularly focussed upon the Association's recommendation that "The maximum use and commercial disposal should be made of all products of the forests, both by diversification of production in pulp and paper mills and by disposal to allied forest industries."

Many stories have been appearing in the press regarding new uses to which forest products are being put, and particularly those products hitherto classed as "waste." As a matter of fact, the many new uses to which forest products were applied during the war have opened up such widening opportunities for enterprise that an intensified drive has developed on the part of all the major pulp and paper concerns for the utilization of all waste products not only of the pulp and paper mills but of the numerous sawmills of the huge lumber industry.

Examples of Diversification

The latest development is for the use of sawdust in the manufacture of pulp. Sawdust has long been a commercial product in British Columbia, where it is widely used as fuel both in industrial plants and in specially constructed domestic stoves and furnaces. Now one of the largest lumber concerns in the province has served notice on customers that after a specified date, pending which stoves and furnaces can be remodelled, it will no longer sell sawdust for fuel, as the output will be diverted to pulp making.

This is one of many instances in which the operations of sawmills and pulp concerns are being correlated. Already, mechanization is being effected to render the vast quantity of tree stumps that has hitherto rotted in the woods commercially practicable as material for pulp making. Waste slabs from sawmills, and particularly the low-value outside slabs formerly sold for fuel, are being turned over to pulp making. One of the reasons for the adoption by certain sawmills of hydraulic barkers such as have proved so successful in barking pulpwood is that it makes a wider range of waste sawmill slabs readily available for the making of pulp.

In the pulp and paper industry the many company laboratories have long been specializing on experiments for the production of commercial products from waste pulp mill material and during the past year widespread enlargements of laboratory facilities have been put in hand with this in view. All sorts of new by-products are now appearing, many of them from utilization of waste sulphite liquor. These range all the way from cheap binders for road construction and road surfaces to industrial alcohol, vanillin for flavoring, and new forms of plastics. In addition, industries are springing up for the manufacture from pulp products of new forms of containers and new insulating materials for building purposes.

As a result many communities hitherto wholly dependent on the manufacture of pulp and paper and lumber are now becoming centers of important groups of diversified manufacturing. This movement is now only in its beginning. Informed opinion in the industries concerned is that the scope and potentiality of this movement is unlimited.

Powell River Installs A New Head Box

POWELL RIVER, B. C. — Installation of a new head box was recently completed on the number 7 machine of the Powell River Company. The head box was designed in the company's plant through the co-operation of the operating, engineering and technical staffs. The new unit is an all-steel structure, of welded construction. On the inside it is coated with a special heresite solution, to prevent the accumulation of sludge and slime on the surface of the box. It was installed in a huge insulated oven, large enough to enclose the entire box—and the heresite coating was baked by a special process.

The box was installed in a full day less than the programmed schedule—and all staffs and employees concerned were especially thanked by the management for their personal interest and co-operation, without which the achievement would have been impossible.

Victoria Box & Paper Occupies New Plant

VICTORIA, B. C.—Victoria Box & Paper Company is now comfortably installed in its new factory warehouse and office, premises that were provided by extensive alterations to three formerly separate buildings on Yates Street, Victoria. The total floor area of the remodelled building is more than 30,000 square feet.

British Columbia Production Reaches Record Total Value

VANCOUVER, B. C.—Pulp and paper production in the Province of British Columbia last year showed a value of $33,782,000, as against $30,391,000 the previous year. The 1945 total is a new high record, the previous high mark being established in 1941 when production reached $27,723,000.

Newsprint production in British Columbia in 1945 was 253,671 tons as compared with 236,696 tons in 1944, 211,696 tons in 1943, 252,559 tons in 1942 and 275,788 tons in 1941. The ten-year average production for newsprint was 238,567 tons.

Production of other types of paper in British Columbia is continuing to show a gain and reached a total of 80,691 tons in 1945. In 1944 production of paper other than newsprint amounted to 74,038 tons and in 1942 the previous high mark was reached with a production total of 74,915 tons.

In addition to 310,575 tons of pulp produced for manufacture in British Columbia, a total of 171,839 tons of pulp were shipped out of the province. The 1944 total for pulp production in B. C. was 295,595 tons, while 170,192 tons were exported that year for processing outside of British Columbia.

These figures were revealed in a preliminary report issued recently by the Forestry Service of the British Columbia Department of Lands and Forests under the direction of C. D. Orchard, Deputy Minister of Forests, and Chief Forester.

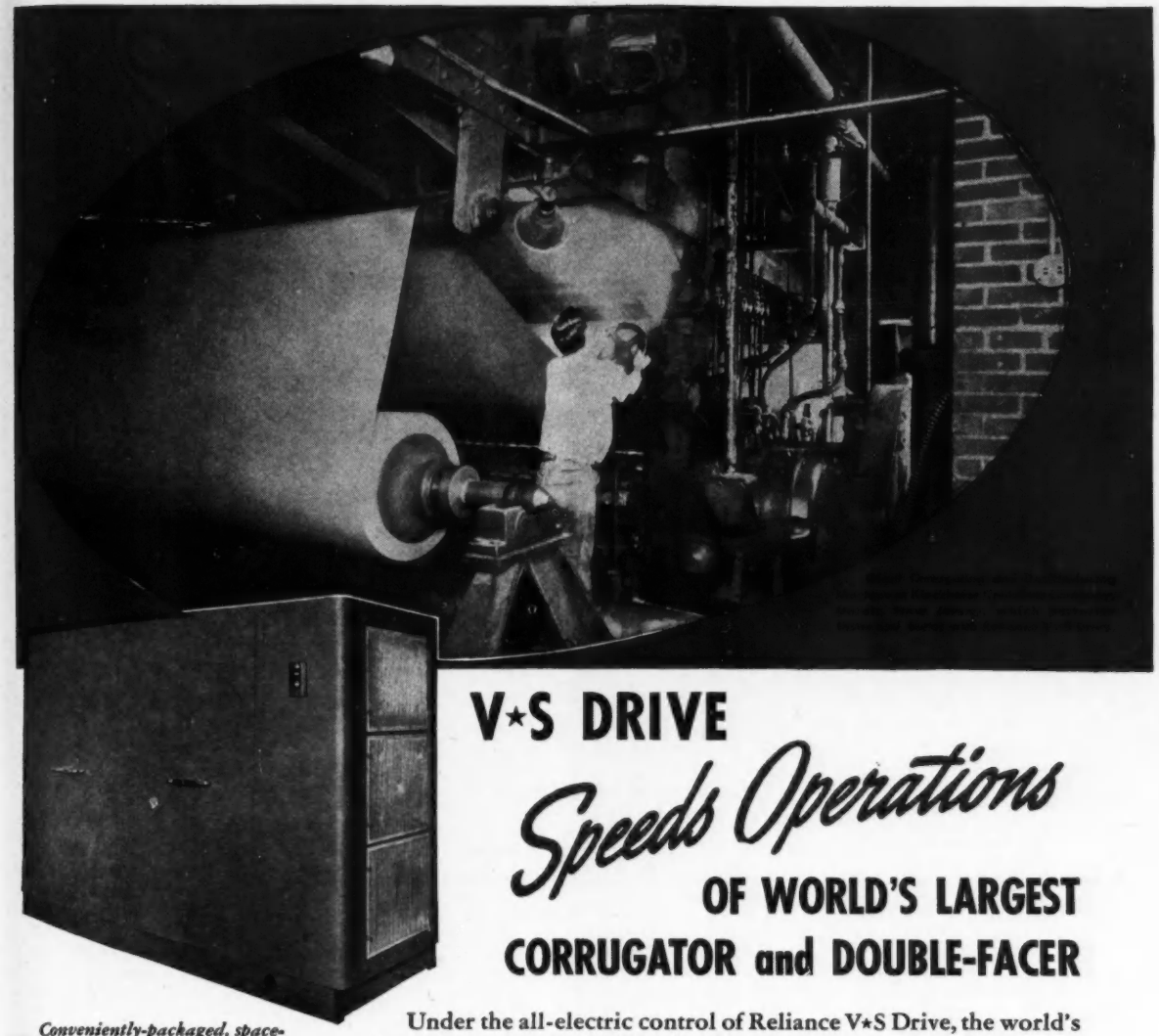
Pacific Mills Awards $100 For Easton's Suggestion

OCEAN FALLS, B. C.—T. Easton, a machinist at the plant of Pacific Mills Limited was recently awarded $100 for a suggestion that he submitted to the Labor - Management Committee. His suggestion embodied placing a steel band around the graphite ring on a type of steam joint used extensively on the paper machines. This band will tend to eliminate the graphite rings falling apart when fractured due to excessive vibration. The suggestion will effect considerable savings on this phase of the operations.

The Labor-Management Committee at Ocean Falls has been operating for approximately three years. During this time nearly 250 operating and mechanical suggestions have been turned in. Many of these have been accepted and given monetary awards. The awards vary in relation to the amount of money saved by the suggestions.

Williamson Improves

SPRINGFIELD, Mass.—George E. Williamson, secretary-terasurer of the Strathmore Paper company, and active civic leader, is ill at Springfield hospital. Business associates said that he is showing gradual improvement but must have complete rest for several weeks.



V★S DRIVE *Speeds Operations* OF WORLD'S LARGEST CORRUGATOR and DOUBLE-FACER

Conveniently-packaged, space-saving V★S units are popular in paper mills. Available in either Rotating or Electronic Systems or a combination of both systems.

Under the all-electric control of Reliance V★S Drive, the world's largest corrugating and double-facing machine starts and stops in a flash and accelerates from zero to highest speed in a matter of seconds. Speeds of all sections are synchronized and proper tension constantly maintained—to avoid damage to the material.

V★S, the *All-electric, Adjustable-speed Drive operating from A-c. Circuits,* offers a broad selection of automatic or manual controls —from nearby or remote stations—for numerous types of paper mill equipment. Its record of operating efficiencies and economies introduced in so many mills indicates why it will pay *you* to write today for further information. Just ask for Bulletin 311.

RELIANCE V★S DRIVE

RELIANCE ELECTRIC & ENGINEERING CO.
1099 IVANHOE ROAD • CLEVELAND 10, OHIO

Birmingham • Boston • Buffalo • Chicago • Cincinnati • Denver • Detroit • Gary • Greenville • Houston • Kalamazoo Kansas City • Knoxville • Los Angeles • Milwaukee • Minneapolis • New Orleans • New York • Philadelphia • Pittsburgh Portland, Ore. • Rockford, Ill. • St. Louis • San Francisco • Seattle • Syracuse • Tampa • Tulsa • Washington, D. C.

RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"

Union Bag Doubled Net in First Quarter

SAVANNAH, Ga.—Union Bag & Paper Corporation, despite adverse operating conditions in January and February, reports a record net income for the first three months of 1946. Largely reflecting the effect of lower tax rates the corporation's first quarter net income of $956,820, equivalent to 75 cents a share, compares with $538,637, or 42 cents a share in the first quarter of 1945 and $173,512 or 14 cents a share, after year-end adjustments, in the fourth quarter ended December 31, 1945.

Net sales in the quarter ended March 31, 1946, amounted to $9,511,784, a decrease of 14 per cent as compared with sales of $11,017,098 in the first quarter of 1945.

Alexander Calder, president of Union Bag & Paper Corporation, pointed out that shortage of pulpwood, which necessitated some weeks of five-day operations at the corporation's Savannah Property, affected production, sales and net profits during the first two months of the year. The pulpwood shortage was caused chiefly by abnormally heavy rainfall and labor and equipment shortages.

Mr. Calder stated that final notice has been received from the government renegotiation board that profits derived from 1944 sales subject to renegotiation were not excessive and no refund has been required.

U. S. Envelope to Get Rebate

SPRINGFIELD, Mass. — The United States Envelope Company will receive $22,366.24 as a rebate on federal taxes, according to Arthur Peterson, vice-president. Reasons for the rebate were given as allowances of additional deductions for losses in the years 1941 and 1942, allowances of additional deductions for taxes and allowance of an increase in unused excess profits credit.

Horders Income Off Slightly Against Increased Sales

Horders, Incorporated, always of interest to the trade as one of the outstanding wholesalers and retailers of stationery and office supplies in this part of the country, reported this week a net income of $180,024 for the fiscal year ended January 31, a slight decrease from $180,663 reported for the previous fiscal year. Sales increased 13 percent last year to $4,867,063, second largest volume in the company's history. Earnings on 125,000 outstanding shares were $1.44 a share and $1.45 in the year ago period. The company's store at Wabash Avenue and Lake, a completely new and handsome departure in the field of stationery store layout, did a sales volume 36 percent ahead of last year, according to E. Y. Horder, chairman of the board.

Scott Earnings Rise In First Quarter

Scott Paper Company for the quarter ending in March reports consolidated net earnings, $410,564, equal to 51 cents each on 804,782 common shares, against $315,493, or 47 cents each on 667,942 shares last year.

Rotary Elects Stanton Meade

WISCONSIN RAPIDS, Wis. — Stanton W. Mead, director of manufacture of Consolidated Water Power and Paper Company, has been elected president of the Wisconsin Rapids Rotary Club. He was vice president last year.

Wall Paper Stockholders Approve Expansion Plan

APPLETON, Wis. — Stockholders of the United Wall Paper Company, meeting last week in Wilmington, Del., authorized the company to issue 40,000 shares of cumulative preferred stock and to increase common stock by 300,000 shares to finance the company's expansion program. Included in the program is construction of a $500,000 mill in this city, to be operated by Kimberly-Clark Corporation, Neenah, Wis., which now sells all the production at its Atlas mill in Appleton to United Wall Paper. William H. Yates, president of the latter company, said on May 2 that plans for Appleton have not progressed far enough to permit detailed discussion.

Donnacona Financing to Buy Additional Timber Limits

MONTREAL—In connection with the offering of $2,500,000 of Donnacona Paper Company Limited 4½ percent cumulative preferred stock at $100 per share, it is indicated that proceeds of the sale of this stock will be used to acquire approximately 1,000 square miles of additional timber limits. This purchase will make available to the company at least 5,500,000 cords of pulpwood.

Hinde & Dauch Reports Net Profit Rising

Hinde & Dauch Paper Company reports for the March quarter: Net profit, $426,109, or 99 cents each on 427,824 common shares, against $343,294, or 83 cents each on 360,250 shares last year. Common share earnings are after dividend requirements on preferred stock which was redeemed Feb. 25, 1946.

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending May 4, 1946

STOCKS

	High	Low	Last
A. P. W.	9⅜	9⅛	9⅛
Armstrong Cork Co.	62½	62	62¼
Celotex Corp.	29¾	28¾	28¾
Celotex Corp., pf.	21¼	21	21⅛
Certain-Teed Products Corp.	23⅛	22	22⅛
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	63	59¾	59¾
Champion Paper & Fibre Co., pf.	113	112	112
Congoleum Nairn Co.	37¼	36	36⅞
Container Corp. of America	52¾	51	51
Continental-Diamond Fibre Co.	16⅛	15¼	16⅛
Crown-Zellerbach Co.	37¼	36¾	36¾
Crown-Zellerbach Co., pf.	108¾	108	108¾
Dixie Cup Co.	51	50½	50½
Dixie Cup Co.—A	58	57	57
Flintkote Co.	45⅛	43¼	43¾
Flintkote Co., pf.	....	....	....
Robert Gair	10¼	9¾	9¾
Robert Gair, pf.	20¾	20⅝	20⅝
International Paper Co.	50¾	49⅛	49½
International Paper Co., pf.	126½	122½	123
Johns-Manville Corp.	160	157½	157½
Johns-Manville Corp., pf.	146	146	146
Kimberly Clark Corp.	....	....	....
Mac Andrews & Forbes	42½	41¼	41¼
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	72	70½	71
Mead Corp.	28½	27⅜	27⅜
Mead Corp., pf. A—6%	....	....	....
Mead Corp., pf. B—5½%	107½	107½	107½
National Container Corp.	33⅞	33	33⅜
Paraffine Companies, Inc.	85	85	85
Paraffine Companies, Inc., pf.	110	110	110
Rayonier, Inc.	29¾	28	28⅜
Rayonier, Inc., pf.	37¾	37¼	37¼
Ruberoid Co.	55⅛	52½	55⅛
Scott Paper Co.	55½	54⅞	55
Scott Paper Co., pf.	....	....	....
Sutherland Paper Co.	52¾	52	52
Union Bag & Paper Corp.	35¾	34	34
United Paperboard Co.	15	14¼	14¼
U. S. Gypsum Co.	125	122	122
U. S. Gypsum Co., pf.	....	....	....
West Virginia Pulp & Paper Co.	49	48	48
West Virginia Pulp & Paper Co., pf.	....	....	....

BONDS

Abitibi Pulp & Paper Co. 5s '53	109	109	109
Celotex Corp. 3¾s '55	....	....	....
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	105	105	105
International Paper Co. 5s '47	102¼	102	102
Mead Corp. 3½s '53	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending May 4, 1946

STOCKS

	High	Low	Last
Great Northern Paper Co.	42	41¾	42
Hummel-Ross Fibre Corp.	19½	17½	19½
St. Regis Paper Co.	11½	11⅛	11⅛
St. Regis Paper Co., pf.	....	....	....
Taggart Corp.	9¼	9¼	9¼

BONDS

American Writing Paper Co. 6s '61	....	....	....

Consolidated Staff Gets 5 Cents More

WISCONSIN RAPIDS — About three thousand employes in the six divisions of Consolidated Water Power and Paper Company received a five-cent hourly wage increase May 1 under terms of a new contract announced April 30. It was the twenty-seventh annual labor agreement between the company and unions and is effective until May 1, 1947.

Also provided are vacations with pay on a 44-hour week basis. L. J. Barrette, general personnel manager, explained that operations had been cut back from 48 to 40 hours since last fall and that the company and union agreed to "split the difference." Employes with one or more years of service are entitled to one week, and those with five or more years will receive two weeks, or 88 hours.

The five-cent wage increase is in addition to the 15-cent increase granted when Consolidated reconverted to a 40-hour week after V-J day.

A new insurance plan also was included and is being worked out to provide liberalized benefits for employes. Consolidated will bear administration expenses and will match premium fees paid by the employes. The latter will be represented in control of the program by elected trustees. Life, sickness and accident insurance is included as in the past.

Representing the company in the negotiations, which required only two days, were Stanton W. Mead, director of manufacture; Mr. Barrette, and the following mill managers: C. E. Jackson, Wisconsin Rapids division; W. E. Beadle, Jr., Biron division; J. A. Rush, Stevens Point division; C. R. Morse, Wisconsin River division; L. E. Smith, Interlake division at Appleton, and D. G. Rowland, Plastic division at Wisconsin Rapids.

Unions involved, all in the American Federation of Labor, are: International Brotherhood of Pulp, Sulphite and Paper Mill Workers, International Brotherhood of Papermakers, International Association of Machinists and International Brotherhood of Electrical Workers.

Eagle A Lodge and Local 226 To Consider Next Step

HOLYOKE, Mass.—A meeting of the Eagle A Lodge of Papermakers will be called soon to consider action on their proposal for a wage increase, at the same time the local 226, Holyoke Paper Mill Workers, will consider further action on its request for wage increase after rejecting a seven-cent an hour counter-proposal by the paper mill manufacturers. The papermakers and paper mill workers demands for wage increases are tied up together.

The Paper Mill Workers turned back the manufacturers' offer to their requested overall 12½ cents hourly raise. All other clauses in the proposals are reported to be satisfactorily agreed to between the two parties, which include three additional paid holidays not worked, reduction of five to three years requirement for eligibility for two-weeks vacation with pay; group hospitalization insurance and voluntary checkoff of dues.

Powell River Advances Cooper and Kyles

POWELL RIVER, B. C.—Russell M. Cooper and John A. Kyles have been appointed as assistant resident managers at the Powell River Company, by D. A. Evans, resident manager. Mr. Cooper will have supervision over all mill and waterfront operations and maintenance, including the dams, power houses, transmission, etc. Mr. Kyles will be in charge of Powell River general offices, townsite, cafeteria and such other duties as may be assigned to him.

Mr. Cooper took over the duties of general superintendent on March 17, 1941, in succession to the late Grant Fowler. Born in Montreal, he was educated at Ormstown High School, and attended McGill University. He served overseas with the Canadian Pioneers 1914-1918. He was general superintendent at Quebec North Shore Paper Company before going to Powell River. "Russ has been a paper man all his life"—and his experience, training and general popularity form an ideal background for his promotion.

Mr. Kyles joined the Powell River Company on April 20, 1925, as a cost accountant. Born in Glasgow, he attended Glasgow University. He was employed with the well-known auditing firm of Helliwell, MacLachlan before going to Powell River. He was promoted to accountant in March, 1929, and early in 1932 took over the post of mill secretary. Mr. Kyles joined the R.C.A.F. in October, 1941, and left for overseas in January, 1942. Returning to Powell River in the spring of 1945, he took over his old post of mill secretary. His promotion to be assistant resident manager, after 20 years of service, is a well-deserved one.

Palmquist Shows Movies Of Marathon Project

WAUSAU, Wis.—Howard Palmquist, woodlands manager of Marathon Corporation showed motion pictures of the Pic and Nagagami river developments of the company in Canada, at a dinner meeting of the Lions Club in Hotel Wausau. About 150,000 cords of pulpwood will be driven to the mouth of the Pic river this year, he said, stating that the mill at the townsite of Marathon will go into production next summer. Mr. Palmquist asserted that approximately two thousand men would be engaged in woods operations and another fifteen hundred on the mill and townsite, which is 185 miles east of Port Arthur, Ontario, on the north shore of Lake Superior.

Hinsdale Mills Grant Five-Cent Pay Boost

HINSDALE, N. H.—Employes of the five paper mills located here, represented by Ashuelot Valley local 483, International Brotherhood of Papermakers, AFL, have been granted a five-cent hourly wage increase following brief negotiations. Harold T. Martin, Holyoke, labor relations adviser, represented the mills and Edward M. Moore, also of Holyoke, organizer for the papermakers' union, represented the workers. The raise brings the total general wage rate increases received at these mills since V-J day up to 15 cents an hour except for those working on tours. The total raise for the tour workers has been 17 and 19 cents an hour for the second and third shifts respectively.

The Hinsdale plants still pay considerably less than those in Holyoke, a condition largely attributable to difference in the size and speed of machines. Tissue mills, such as those at Hinsdale, have generally paid lower wages than writing paper mills.

For instance the latest raise brings common labor at Hinsdale up to 70 cents an hour while Holyokers in the same category get 71 as a minimum; Hinsdale backtenders go up to 79 cents while Holyoke backtenders get from 87 to 94 depending on size of machine; machine tenders in Hinsdale get 94 cents while the rates for similar work in Holyoke range from $1.16 to $1.22.

Floyd Graham of South Hadley has an interest in two of the Hinsdale plants, the Hinsdale Paper Manufacturing company and the White-Washburn company.

Smith Paper Awards Go to Expense-Saving Suggestions

LEE, Mass. — Anthony Frulla was awarded $136.70 at the April meeting of the paid suggestion committee of Smith Paper Incorporated, for suggesting a method of conveying coal to the bailers. Thomas McGinty was awarded $28.80 for his suggestion on live centers for lathes. Other winners were William L. McDonnell, $14, automatic steam valves for felts; John Shalley, $2, tripod for lifting electric motors; John T. Kennedy, $2, pressure on press lever; George A. Joyner, $2, caustic spray; William J. Mirrick, $2, personnel testing; Frank Voisin, $2, sanding suction boxes; August T. Martin, $2, wedge for calendar rolls.

Kimberly-Clark Office Goes on Five-Day Week Schedule

NEENAH, Wis. — Effective May 1, 1946, and until further notice the main office of Kimberly-Clark Corporation will operate on a five-day week schedule. No one will be available on Saturday mornings but all personnel will be at the office from 7:45 a.m. to 4:30 p.m. from Monday through Friday.

B. C. Mills Reduce Loss from Waste

VANCOUVER, B. C.—Waste in British Columbia's $150,000,000 forest industry is rapidly being reduced, and pulp and paper mills are largely responsible. Effective utilization programs are not in effect, and they represent a significant new development.

The most recent step in the direction of waste elimination in the forest industry was taken a few days ago by a big British Columbia lumber manufacturing organization which is installing special machinery to convert sawmill refuse into chips for the manufacture of wood pulp.

Large quantities of this refuse were previously disposed of as sawdust for fuel in west coast homes, but this represented an economic loss to the industry and the whole province inasmuch as wood converted into pulp and paper products is naturally of much greater value than fuel. This is now being corrected through the co-operation of the pulp mills with the lumber industry, and during the next few years millions of dollars worth of material that used to go up in smoke will be utilized in a constructive way.

The west coast's pulp mills have played an important part in utilization of forest "waste" for several years. More than a decade ago they became a major market for so-called hogged fuel, made from the slabs and other castoff material from the lumber industry. Much of this material was previously burned as refuse in giant burners located at the site of almost every sawmill. But the pulp mills found that this wood was desirable for their own fuel supply and its extensive use for this purpose resulted in a corresponding curtailment of foreign fuel imports.

A couple of years ago one of the largest of British Columbia's paper mills entered into an experiment with the provincial government and a logging organization for the salvage of small logs that would otherwise have been left on the ground to rot or be burned as slash. These logs, previously of no commercial value, were converted into pulp.

Bud Petrequin Is Named As Consultant to OPA

CLEVELAND—E. J. Petrequin, son of E. A. Petrequin, Petrequin Paper Company, and secretary of that company, has been appointed Consultant to the Paper and Paper Products Branch of the Office of Price Administration. He will serve as advisor on the distribution of Fine Papers.

"Bud" has been induced to take this job as a duty to the Government and to the trade. It is understood that he will not be in Washington continuously but will give as much of his time as the officials require.

He is Vice-President of the Central States Paper Trade Association and has been with the Petrequin company since his graduation from Dartmouth in 1925.

Edwards Returns and Resumes Leadership of Sapeyes

CHICAGO—The western division of the Salesmens Association of the Paper Industry expects again to have a vice president as Ed Edwards of the Howard Paper Company returns to Chicago Monday, May 6, to resume his duties. Shortly after he was elected western division vice president, the popular Howard Paper Company executive went on a long business trip to the West Coast, missing about four weeks of meetings, and an especially fine talk by Bill Tilden of the Mead Sales Company. At the same time, the SAPEYES lost the immediate presence of their newly elected president as Pat Patterson transferred his sphere of activities to the Flambeau mills. Now, at least, the Chicago Sapeyes feel they are only partly orphans —with Ed Edwards back in town.

Marathon Supervisors Inspect Dancy Reservoir Site

WAUSAU, Wis.—An inspection tour of the area proposed to be flooded for the new Dancy reservoir in the Little Eau Pleine river basin was scheduled to be made May 2 by the special joint committee of the Marathon county board of supervisors. The committee is investigating a proposal to vacate several county trunk highways in southern Marathon county to make way for the reservoir.

The committee met earlier with representatives of the Consolidated Water Power and Paper Company, Wisconsin Rapids, to discuss the company's proposal for vacating the highways. Later the committee is expected to ask a special one-day meeting of the county board, which may then take definite action on the Dancy reservoir proposal.

Kenelm Dallam Joins Barton, Duer & Koch

WASHINGTON, D. C.—Kenelm Dallam, formerly manager of the Washington office, Whitaker Paper Company, joined the Barton, Duer & Koch Paper Company on May 1st as sales manager of its Washington office. Mr. Dallam has had considerable experience in the paper business, having first started with Hubbs & Corning Paper Company in 1919 and after a brief period with Bradley-Reese Company and Industrial Paper Company in Baltimore, joined the Whitaker Paper Company Baltimore Division in 1925, and traveled the southern territory as salesman until 1936, when he was appointed manager of the Washington Division of Whitaker Paper Company. He is 42 years old, married, has three children, two daughters and a son, and lives in Washington.

Wisconsin Valley Plans Safety Conference

ANTIGO, Wis.—Plans are progressing for the fifteenth annual Wisconsin River Valley Safety Conference which will be held here June 13. The program includes an opening general session, a foremen's noon luncheon, and an afternoon devoted to sectional meetings, including one for the pulp and paper industry. The program will close with a banquet in the evening.

Addresses will be given by Voyta Wrabetz, Madison, chairman of the Wisconsin State Industrial Commission, who will speak on "Our Job"; G. D. Cannon, Chicago, director of Industrial Safety Education Service, whose topic will be "Eye Protection"; and R. C. Salisbury, Madison, director of the safety division of the state motor vehicle department, who will discuss "Changes in Wisconsin's Traffic Laws." Mayor Hjalmer Olson of Antigo will extend a welcome on behalf of the city, and introductory remarks will be made by General Chairman W. W. Boettcher, district manager of the Wisconsin Public Service Corp.

Alvin H. Koebe, Merrill, Safety director of the Ward Paper Company, will be chairman of the foremen's noon luncheon at the Quigley hotel. John H. Wrage, Madison, safety and training director of the Gisholt Machine Company, will speak on "Psychology in Industry for Foremen."

Dr. Axel Pearson will be the banquet speaker, his topic being "Broader Views, Bigger Men, Better Country." V. C. Frinke, manager of the Vulcan Corporation, Antigo, will preside. Music will be provided by the Antigo Cosmopolitan Orchestra.

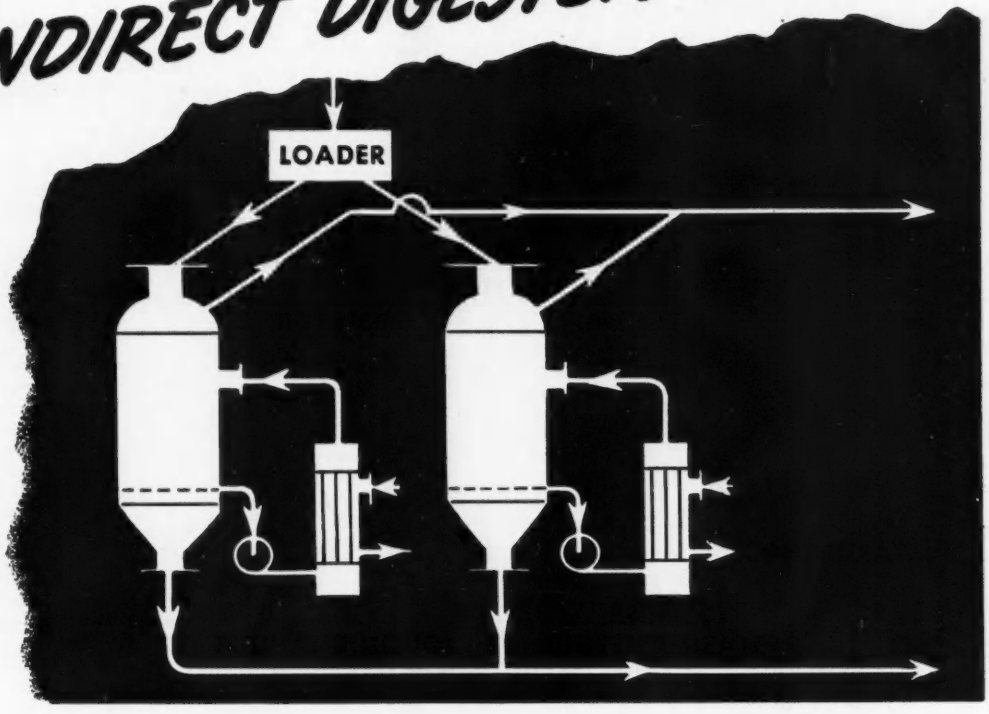
Clark Returns to Strathmore As Advertising Manager

SPRINGFIELD, Mass. — Robert B. Clark, Jr., has been appointed advertising manager of the Strathmore Paper company, filling the vacancy left by the recent promotion of Harry E. Riggs to sales manager. Clark, recently released to inactive duty as a lieutenant-colonel, prior to the war served Strathmore as assistant advertising manager of Old Colony Envelope Co. in Westfield. He has been with Strathmore and its subsidiaries since 1929.

Union Bag Adds Two To Its Directorate

W. Paul Stillman and L. D. Barney have been elected to the board of directors of Union Bag & Paper Corporation. This action was made known this week by Alexander Calder, president of the company. Mr. Stillman is president of the National State Bank, of Newark, N. J., and chairman of the board of the Mutual Benefit Life Insurance Company. Mr. Barney, of Roche Park, Nutley, N. J., is president of Hoffman-LaRoche, Inc.

PULP COSTS REDUCED by INDIRECT DIGESTER HEATING



Indirect digester heating systems offer practical opportunities for recovery and conservation of heat; direct systems show none of these advantages.

For example, hot condensate is collected in the indirect heater and returned to the boiler, but there is no condensate with direct heating. In addition to the heat saved when this hot condensate is utilized, another saving is made in the cost of treating feed water for makeup.

Further, direct systems require more steam for black liquor evaporation because the liquor has been diluted. Net result of employing indirect heating is a reduction in the cost of manufacturing pulp.

For information about modern economic processing methods for the paper industry, address

FOSTER WHEELER CORPORATION
165 Broadway • New York 6, N.Y.

FOSTER WHEELER

Fibre Drum Industry Organizes Its Group

CLEVELAND—The fibre drum industry now has a permanent organization. Following preliminary meetings in New York and Chicago during February and March, the organization was formally completed at an industry meeting at Hotel Statler, April 23, 1946. H. L. Carpenter, president, Carpenter Container Corporation, Brooklyn, N. Y., was elected president; W. J. Mahoney, president, Master Package Corporation, Owen, Wis., is vice-president; Glenn Mather, Container Company Division of Continental Can Company, Inc., Van Wert, Ohio, is secretary; R. C. Carlson, president, Emery-Carpenter Container Company of Cincinnati, and Chicago, is treasurer.

Five directors were elected at the Cleveland meeting, including Carpenter, Mahoney, Carlson, Eggerss, vice-president, Container Company Division of Continental Can Company, and R. F. Gumbert, General Manager, Plyfiber Corporation, Garwood, N. J. A committee on transportation was created consisting of C. E. Eggerss, Chairman, Henry Craemer, Carpenter Container Corporation, Mr. A. J. Godshalk, Pioneer Cooperage Co., Chicago.

A committee of ten was created to handle industry relations and federal agency contacts; W. J. Mahoney it its Chairman. Other members are R. F. Gumbert, George T. Dyer Jr., John Gotwals, Hugo Kirschner, Albert Knabb, D. F. Manion, Paul Strange Jr., Harold M. Walter.

Price control subjects will be handled as before by the Industry Advisory Committee appointed by the government in 1943, of which H. L. Carpenter is chairman and Glenn Mather is Secretary.

Fire Loss Is Held to Only Minor Damage

PALMER, Mass., May 5—The loading platform at the S. C. S. Box company at Thorndike was considerably damaged and a quantity of finished paper boxes and paper stock destroyed in a fire May 2. The blaze had gained considerable headway before it was discovered. Factory employes used extinguishers in an effort to stop the spread of the flames. Damage is estimated at $2000.

Seven Retire at Byron Weston

DALTON, Mass., May 5—Seven employes of Byron Weston Company were retired yesterday after completing a total of 312 years. Individual service extends from 28 to 50 years and the positions represent a cross-section of the skilled posts at the mill.

The men, Arthur E. Arnel, John F. Davison, George E. Depew, John W. Depew, brothers, Richard K. Fox, Arthur H. Richards and David H. Sherman are all retiring under the pension plan which the company has had in effect for several years.

Movies Show Longlac Views To Supervisors Club

NEENAH, Wis.—A motion picture of Kimberly-Clark Corporation's new Longlac project was shown during the dinner meeting of the Lakeview Supervisors' Club May 2 at the Valley Inn. A report by the club's board of control was made by the members. A report by the training committee, which has sponsored Tuesday and Wednesday sessions every other week during the winter, also was given, and the financial report was read.

Mead Sales Will Handle B. S. & W. Kraft Pulp

VANCOUVER, B. C.—Bloedel, Stewart & Welch Ltd., has named the Mead Sales Company to act as its exclusive agents in the United States for the sale of the new unbleached sulphate mill's products. The mill is now in the course of construction at Port Alberni, B. C., and will have a daily capacity of 165 tons of Kraft pulp. Howard A. Simons, consulting engineer, who is in charge of plans for the project, has established his headquarters at Vancouver. The new mill will be completed and ready for operation it is expected by the early part of 1947.

Production of the highest quality Northern Kraft for sale to mills will be undertaken at the new plant. The pulp mill is being erected adjacent to the company's sawmill at Port Alberni.

B. S. & W. commenced operations in the logging business in British Columbia in 1911, and has steadily expanded since that time.

Kimberly-Clark Opens Huts As Cafeteria for 75

NEENAH, Wis.—The cafeteria section of the quonset hut project of Kimberly-Clark Corporation adjacent to its Kimlark mill will open May 13. Two quonset huts have been put together, equipped with kitchens and counters for cafeteria-style serving and will have tables and chairs to seat about 75 persons at one time.

Under tentative plans, the cafeteria will serve one meal, the noon luncheon, for men from Kimlark and the staff engineering department now housed in the Kimlark mill. At present, these men must go down town for their noon luncheons.

Local 20681 Celebrates

SPRINGFIELD, Mass.—Federal Union 20681, AFL, employes of the U. S. Envelope company celebrated their ninth birthday with a banquet at the Hotel Highland last week. Entertainment was furnished and dancing followed.

Midwest Waste Consumers Receive Progress Report

ST. LOUIS, Mo.—Midwest Consumers of Waste Paper this week received a progress report for the first three months' operation of its $250,000 Public Relations program conducted by Frank Block and Associates. The program, aimed at improving dealer-mill relationships and stimulating the flow of waste paper in eleven Midwest States, was begun in January by the Public Relations Committee of the Midwest Consumers of Waste Paper, of which W. H. Beckwith, Vice-President of the Morris Paper Mills, Morris, Ill., is chairman. The four other members of the committee are: P. A. Schilling, President of the Waldorf Paper Products Co., St. Paul, Karl W. Schneider, Vice-President of the Eddy Paper Corp., White Pigeon, Mich., Marvin W. Swaim, Vice-President, Alton Box Board Co., Alton, Ill., and W. I. Osborne, Jr., President of the Cornell Wood Products Co., Cornell, Wis.

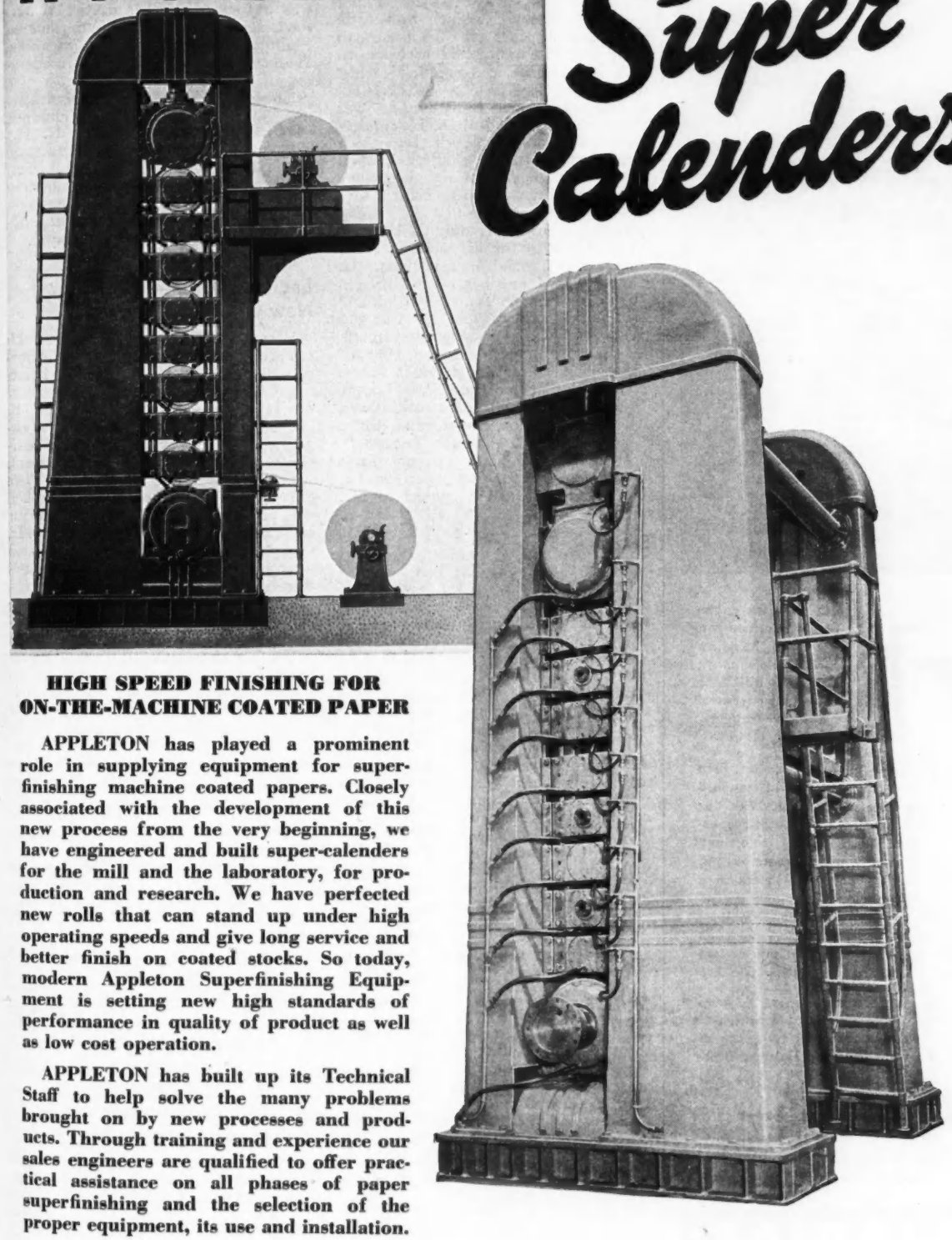
The success of the program, now entering the second quarter, is indicated by the fact that, rather than a continuation of the drop in waste paper receipts which began with V-J Day, the volume has been maintained at a level slightly higher than in war years 1944 and 1945. Current inventories are considerably higher than in 1944 and are about equal to 1945. The three major objectives for the second phase of the program are: continued improvement of dealer-mill relations; increased volume of waste paper collections from programs already established; and the development of new sponsors and programs in the 128 communities where waste paper collections are still dormant.

China Offers Market for Canadian Newsprint

MONTREAL—With ready export demand for far more newsprint than Canada can produce, a large new demand has now come from China. During the past few days an interesting visitor to Montreal has been P. S. Kao, expert on leave from the Chinese Ministry of Economic Affairs, who has been touring industrial centers in this country on behalf of the Sino-International Economic Research Centre, Inc., of New York. He is particularly interested in Canadian newsprint. China imported newsprint from Canada before the war, he said, and although he recognizes that the situation is not very hopeful for any large supplies reaching his country now, he hopes that in "the near future" exports to China will be gradually increased.

He had a long conference with officials of the Newsprint Association and the Canadian Pulp and Paper Association here, sounding out the prospects, and later visited some of the mills in the paper-making centers of the province.

APPLETON Super Calenders



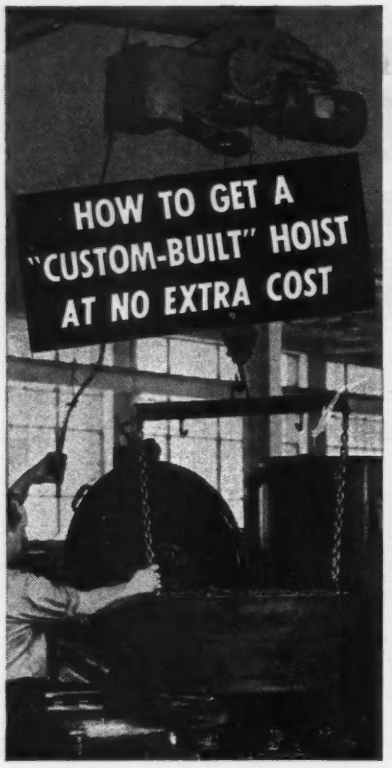
HIGH SPEED FINISHING FOR ON-THE-MACHINE COATED PAPER

APPLETON has played a prominent role in supplying equipment for super-finishing machine coated papers. Closely associated with the development of this new process from the very beginning, we have engineered and built super-calenders for the mill and the laboratory, for production and research. We have perfected new rolls that can stand up under high operating speeds and give long service and better finish on coated stocks. So today, modern Appleton Superfinishing Equipment is setting new high standards of performance in quality of product as well as low cost operation.

APPLETON has built up its Technical Staff to help solve the many problems brought on by new processes and products. Through training and experience our sales engineers are qualified to offer practical assistance on all phases of paper superfinishing and the selection of the proper equipment, its use and installation.

THE APPLETON MACHINE COMPANY

APPLETON • WISCONSIN • *Eastern Sales Representatives: CASTLE & OVERTON, Inc., 630 Fifth Avenue, New York*



At no extra engineering cost, you can have a Reading Electric Hoist that's CUSTOM-BUILT to solve your special materials handling problems.

The Reading Unit Construction Plan gives you a choice of several standard interchangeable mechanisms. With this plan you can select the type of suspension, control, hoisting and motor unit that best suits your job requirements. Imagine the advantages you get in a hoist "tailor made" to your own specifications! If your operating conditions change, you can modernize—and save costs—by simply changing one or two units.

See your distributor for more information on Reading's Unit Construction Plan or write us today for your copy of "144 Answers To Your Hoisting Problems."

READING CHAIN & BLOCK CORPORATION
2113 ADAMS ST., READING, PA.
CHAIN HOISTS • ELECTRIC HOISTS
OVERHEAD TRAVELING CRANES

READING HOISTS

George Tayloe

George G. Tayloe, one of the founders and president of Tayloe Paper Company, Memphis, which in a little more than 40 years grew from a small beginning to one of the best known such firms in the Mid-South, died last week. Mr. Tayloe was in excellent health until April 12, when he was admitted to the hospital. He underwent an operation April 14, which seemed successful for a time, but April 21 a second operation was necessary and his condition had been critical several days.

Widely known not only in business circles but also for his work in civic, religious and social organizations, Mr. Tayloe was a member of the Executives Club, Rotary, Tennessee Club and Memphis Country Club. He was active in Idlewild Presbyterian Church.

He leaves his wife; his son, Howard Tayloe, and three daughters, a sister, Mrs. Nellie Tayloe Ross, Washington, director of the Mint, and two brothers, Alfred D. Tayloe, Tulsa, and Judge Sam Tayloe, San Antonio, Texas.

Memphis wholesale paper firms closed from 11 a.m. to noon on the day of the funeral in respect to Mr. Tayloe.

Samuel R. Blair

MONTREAL—News has just been received here of the sudden death at his office in Bowater, N.F., of Samuel R. Blair, electrical superintendent of the Newfoundland Pulp and Paper Mills, Limited. Mr. Blair, who died from a heart attack, was well known in Montreal, as his professional duties as an engineer often brought him to this city. He was 53 years of age.

He was born in Limerick, Ireland, and came to Canada in 1912. He remained here until 1928 except for four years overseas in the Canadian Army, and went to Newfoundland in August of that year, when he joined the electrical department of the company where he remained until his death.

Mr. Blair is survived by his wife and three children: Dorothy, now attending Mount Allison University, Sackville, N.B.; Gordon, a student at McGill University, Montreal; and Brian, at home.

M. G. Benson

M. G. Benson, general manager of the Dill and Collins Division of the Meade Corporation, died on April 18th at his residence in Philadelphia. He was very well-known in the paper business, and was one of the old-timers.

Harrie E. Waite

BOSTON—Harrie E. Waite, 78, associated with John Carter & Company, Inc., paper merchants for more than thirty years and sales manager for a considerable period, died at his home at 47 Hillside road, Watertown, Mass., May 1 after a long illness.

Born in Attleboro Falls, he became publisher of a weekly newspaper in Lebanon, N. H., served a term in the New Hampshire Legislature, and later became State Printing Director. He was a former member of the Watertown school committee, moderator of Phillips Congregational Church, Watertown, and for 13 years moderator of Phillips Club Forum.

There are living his wife, Mrs. Minnie Worth Waite; three children, Clayton T. Waite, Concord, N. H.; Walter I. Waite, Mangasset, L. I., and Mrs. Frederic J. Christensen, West Newton, Mass.; nine grandchildren and three great-grandchildren.

Funeral services were held at Phillips Congregational Church, May 3.

Lecraw and Campbell Draw New GPO Assignments

WASHINGTON, D. C.—Raymond H. Lecraw, former Director of Commercial Planning in the Goverment Printing Office, has been made Consultant on Methods and Procedures. A. E. Giegengack, Public Printer, has announced the creation of the new position and Mr. Lecraw's appointment, which became effective April 1, 1946. On the same date Daniel H. Campbell was promoted to be Assistant Director of Purchases. During the war Mr. Campbell exercised general supervision over the Government Printing Office's warehouse organization.

The Public Printer's administrative order establishing the Consultant's position states that the action was taken to further the study of present procedures and methods with a view to installing improvements. The Consultant is authorized to carry on surveys and experiments in any branch of the Government Printing Office's operation and recommend acceptance of improvements to the Public Printer in the event that supervisors at the operating level do not have authority to adopt them or are not in agreement with the Consultant's findings.

Mr. Lecraw has been 30 years in the Government Printing Office, beginning as a compositor and working upward through various foremanships to Assistant Production Manager before taking his job as Director of Commercial Planning.

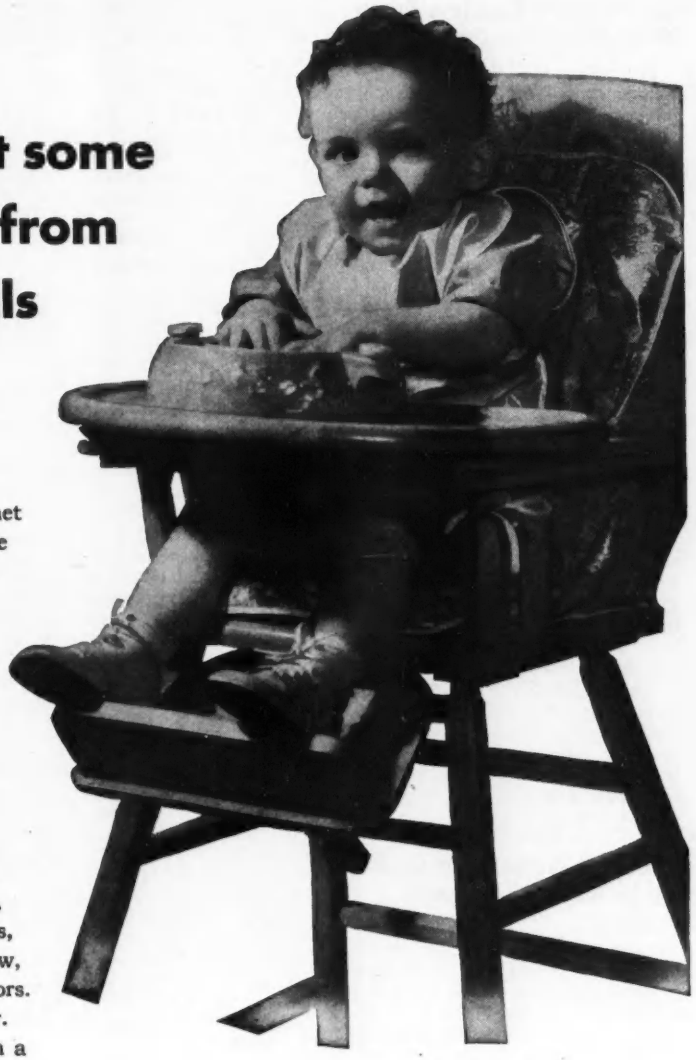
Mr. Campbell served his apprenticeship in the Government Printing Office and has been employed in various production and planning divisions prior to his present appointment.

Institute Will Receive Veteran Housing Units

APPLETON, Wis. — The Institute of Paper Chemistry and Lawrence College will receive 31 units of veterans emergency housing, the Federal Public Housing Authority announced May 2 in Chicago. The college already has been allocated six quonset huts, and plans are underway to provide sewer and water service for the seven similar huts already allocated to the Institute of Paper Chemistry.

Baby may even get some new shoes—made from GEON raw materials

★



A lot of baby's nursery needs can now be met with products made from or coated with one of the GEON polyvinyl materials. There's a bib, for example, to protect baby's clothing while she eats—seated, incidentally, on a GEON-covered high chair cushion. There are baby pants, a diaper bag, crib sheeting, playpen pad, toilet seat cushion; and soon there may be baby shoes made from GEON because right now GEON is being used in the manufacture of shoe parts of many kinds.

All these products—like all products made from GEON—may be made to resist foods, chemicals, acids and alkalies, oils and greases, wear and scuffing, heat and cold, water, mildew, and many other normally destructive factors. All may be easily washed with soap and water. All may be brilliantly or delicately colored in a wide color range.

And don't forget that GEON can be pressure or injection molded, extruded, calendered or cast into sheet or film. In solution or latex forms it can be applied as coatings for fabrics and fibres of all types as well as for paper and cardboard. There are applications for GEON in *every* industry.

We make no finished products from GEON. But we'll be glad to work with you on any special problems or applications. Just write Dept. M 5, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

Here are a few applications for GEON suggested by the nursery items

- Textile coatings for rainwear, awnings, industrial aprons
- Calendered, embossed sheet for upholstery and luggage
- Calendered or molded sheet for flooring, shoe soles, shower mats
- Paper coatings or film for packaging, wall covering
- Extruded wire and cable insulation

Geon
Polyvinyl Materials
A TRADE MARK OF B. F. GOODRICH CHEMICAL COMPANY

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

Eco Perfects Gearless Pump With One-Inch Connections

A new double-impeller gearless pump, with standard one-inch connections and a built-in external driveshaft bearing and base, has been developed for the circulation of water, light oil, and other liquids by ECO Engineering Company, 12 New York Avenue, Newark, N. J. Designed to eliminate the most common causes of pump failure, gear jamming and stripping, the Eco pump employs double impellers made of several layers of a pressure-vulcanized, laminated material, and is designed to pump equally well in either direction.

The built-in driveshaft bearing and base eliminates side-pull when the pump is powered by a belt-drive and pulley, and rules out the necessity of constructing and installing an improvised bearing. In addition, it furnishes a solid base on which to mount the pump. Whether used with a belt-drive and pulley or with a head-on coupling, the bearing will reduce wear caused by unnecessary vibration. Tests show that the long life of the impellers has been increased considerably when the bearing is used.

These impellers are said to pass sand, grit, filings, or sludge without stalling, jamming, or stripping and without damage to the bronze pump body, and are easily replaced when the six-screw face-plate is removed. The pumps can be mounted at any angle.

Lockport Names Raymond Lee To be General Manager

NEWFANE, N. Y.—William H. Lee, President of the Lockport Felt Company, announced his retirement as general manager of the company to a directors' meeting held April 25. His son, Raymond J. Lee, has been elected to succeed him as general manager. Lester D. Carner, personnel director was elected to serve as Secretary, taking over that position from B. A. Dudley who resigned to become assistant to the present. Mr. Audley is also assistant treasurer.

Plycor Booklet Describes Presses for Plywood

Plycor Company has just issued a 16-page illustrated booklet "Plycor Plywood Presses" describing in detail Plycor hydraulic hot-plate presses. Two basic designs are shown and described: frame presses and strain rod presses. Plycor hydraulic pump units are also discussed. A copy may be had by addressing Plycor Company, 154 E. Erie Street, Chicago, 11, Illinois.

Wilson Joins International Nickel

R. M. Wilson, Jr. has joined the Technical Service Section of the Development and Research Division of the International Nickel Company, Inc. at New York, as a welding engineer. He was formerly Welding Engineer at the Bloomfield, N. J., works of the General Electric Company, and graduated from Cornell University in 1932 with a degree of Mechanical Engineer. Mr. Wilson is chairman of the New Jersey Section of the American Welding Society.

Market Guide for Latin America

A new, fully revised 1946 edition of the Market Guide for Latin America has just been distributed by its publisher, American Foreign Credit Underwriters Corporation of 170 Broadway, New York. This edition lists more than 75,000 buyers and agents — wholesalers, manufacturers, retailers, distributors, commission agents, etc.—in all countries of South and Central America, Mexico, Cuba, Puerto Rico and the West Indies. Each listing shows full firm name and trade style, street and postal address, line of business (products handled), together with a capital and credit rating indicating the relative size and "performance record" of the subject firm. A trade classification simplifies the selection of buyers in individual industries or trades.

Names on the U. S. Blacklist are indicated by special symbol.

The separate trade list section lists leading industries, transport services, utilities, Chambers of Commerce and trade associations, etc. General information pages contain a wealth of factual information, such as agency and distributing centers, sales terms, monetary units, customs regulations, banks and banking towns, nearest seaports, communications and steamship charts, "Do's" and "Don't's" in export and other data needed in export marketing and credit work.

New Blaw-Knox Booklet Describes Super-Therm

Details of the Blaw-Knox Supertherm System of process heating, which uses superheated water, are described in a booklet just issued by the Blaw-Knox Company, Pittsburgh. High pressure hot water heating lends itself particularly to the manufacture of molded plastics, rubber, textiles, ceramics, floor coverings, wall paper, and chemicals.

The advantages of using superheated water over other process heating systems are appreciated in many industries. The saving in fuel, even though it frequently runs as high as 50 percent, is only incidental.

The Blaw-Knox Supertherm System, which has been applied in many plants, consists of drawing water, at steam saturation temperature, from any standard industrial boiler, and circulating it through a completely closed pipe system by means of a specially designed pump.

Sun Chemical Features Hydry Moisture-Set Ink Line

General Printing Ink Company, Division of Sun Chemical Corporation, has recently released an illustrated brochure describing Hydry moisture-set inks. Because of the odorless, quick setting characteristics of Hydry ink, one of the important fields for these inks is the food packaging and wrapping industry. The original work on the development of Hydry was performed by Michigan Research Laboratories, Inc., a subsidiary of Sun Chemical Corporation.

During the war years further development in the use of Hydry ink was necessarily retarded because of the scarcity of manpower and certain raw materials. General Printing Ink Company and its eight operating divisions are now prepared to meet the demands for a substantial expansion in the use of Hydry inks. William G. Forster is in charge of the development of this program.

The sixteen page, 8½ x 11, booklet describing Hydry inks and their more important uses is now available from General Printing Ink Company, 100 Sixth Avenue, New York 13, N. Y., or to any office of the following GPI divisions: American Printing Ink, Chemical Color & Supply, Eagle Printing Ink, Fuchs & Lang, Geo. H. Morrill, Pacific Coast, Sigmund Ullman, E. J. Kelly Company.

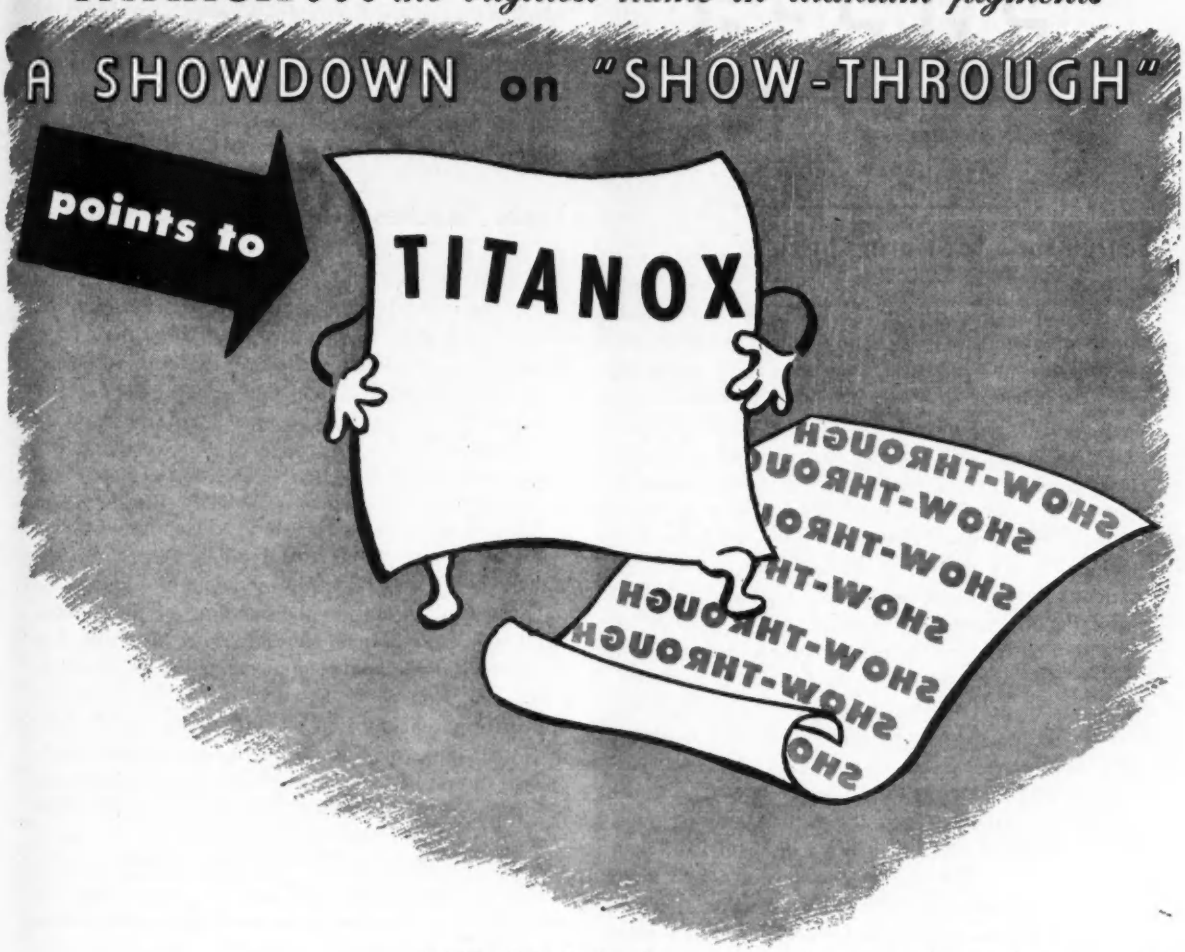
Potentiometer-Pyrometer Operates from Thermocouples

A new Electronic Potentiomter-Pyrometer which has no continuously moving or vibrating parts in its measuring circuit is announced by Bailey Meter Company, Cleveland, Ohio. It records one or two temperatures on a 12″ diameter uniformly graduated chart and indicates on a 29″ bold scale which encircles the recording chart.

This indicating, recording and controlling instrument requires a 115 volt, 60 or 50 cycle, a-c power supply. It operates from a thermocouple or from any source of d-c potential which varies through at least 10 millivolts for full scale range. Conventional thermocouples are used for temperatures up to 3000°F. For temperatures above 3000°F. and for moving objects above 1500°F. radiation type thermocouples are used.

The d-c potential of the thermocouple or other primary element is balanced against a conventional potentiometer circuit employing the usual battery source of d-c voltage and a standard cell with manual standardization. Instead of a galvanometer or millivoltmeter the Bailey Pyrotron Potentiometer circuit employs a d-c to a-c converter and an electronic detector, to measure potentiometer unbal-

TITANOX ... *the brightest name in titanium pigments*



TITANOX is the first choice of paper makers who select their pigments on performance . . . who insist on maximum opacity, brightness, printability and freedom from "show-through".

These benefits are possible with TITANOX pigments because they provide a combination of high refractive index, brightness, neutral white color, as well as fineness and uniformity. Qualities of ready dispersion and good suspension avoid problems in use.

Although the plants that make TITANOX are operating at full capacity, current production is inadequate to supply the greatly augmented demand. You may be sure, however, that steps are being taken to improve this situation as quickly as possible.

TITANOX

TRADE MARK

TITANIUM PIGMENT CORPORATION

SOLE SALES AGENT

111 Broadway, New York 6, N. Y.
104 So. Michigan Ave., Chicago 3, Ill.
350 Townsend St., San Francisco 7, Cal.
2472 Enterprise St., Los Angeles 21, Cal.

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

W. L. Cook, Editor

Search for a Measuring Stick

Provocative because of the contrast which they offer to those of some other fields, the high production figures which pulp and paper mills have reported consistently over the past weeks are kept from assuming boom proportions only because the demands made upon the industry have been of even vaster proportions. The figures are big but the demand is bigger. There is a constantly teasing quality about business which could be turned into revenue if only more goods could be shipped that keeps the paper industry's customers pressing ever more forcefully. A case in point was the presentation this week before the luncheon of the Salesmen's Association in New York City of an estimate of needs by the job printers of the country. Speaking informally on behalf of the Printing Industry of America, a spokesman declared his firm belief that there is immediate pressing need for thirty to forty per cent more paper than is being produced at the present time, and he urged his audience to carry this message back to the manufacturers. He further stated that the printing industry had taken action on the problems by encouraging their own members to voluntarily order lighter weights of paper in order to get more yardage. He added that he sensed that while some paper manufacturers were optimistic enough to gamble on new equipment, there were some others that were not too inclined to increase their capacity. He asked for cooperation of the mills in producing more paper and felt that the demand would continue and their request justified.

On the other hand, students of the trade recognize that business is being held up throughout this period of uncertainty by the large volume of consumer buying. The public wants goods and services in greater quantities than ever before. People have the money to buy and are spending it freely for whatever is available which creates the buying pressure.

But many recall that after the last war consumers bought in large quantities because they had more money to spend and they were willing to spend it. When their attitudes changed, however, in May, 1920, buying slowed down even more rapidly than it rose and the large inventories which had been built up in anticipation of continued large spending became burdensome. The liquidation of these inventories gave further impetus to the downward trend of prices and the comparative short but severe depression of 1921 and early 1922 followed.

One of the indicators that will be watched closely is the trend in commodity prices, especially those in which contracts for future delivery are actively traded on the commodity exchanges. Most important are the prices of grains and cotton. Changes in consumer buying in the retail stores will also be significant for they are likely to precede changes in the rate of industrial production.

Texas Teaches Tree Culture

Texas, land of fabulous ranches, huge oil deposits, mid-winter melons and derby winners, is going into an intensive statewide campaign of education on forestry problems and cultivation. More than forty Texas radio stations, according to local authority, have been enlisted in a campaign to carry the message of sound forest practise to citizens of the state, in the expectation that the voice of the woodland will reach to the farthest corners of the most remote ranch as well as into the apartments of the dwellers in metropolitan centers such as Houston.

Aimed at creating a greater public respect for the forests of the state and to provide simple suggestions to timberland owners in the handling of their woodlands, the Texas Forest Service, A. & M. College, at college station has started a statewide radio educational program, S. L. Frost, chief of the education and information division, is responsible for the estimate that more than 40 Texas radio stations are cooperating on the program. Three types of programs are being presented. They include dramatic broadcasts on episodes in Texas history which have a forestry significance; a forester interview series which contain simple how-to-do-it suggestions for woodland owners, and a forestry news flash series containing highlights of interesting items on the forestry front.

The dramatic expositions were decided on, Frost said, after a study showed that these types of programs rated high in audience appeal. Included in the immediate series are the story of the first railroad in Texas, a story of Jean La Fitte and buried treasure, and "Mr. Boothe's Sawmill," concerning the construction of an early Texas sawmill which was interrupted by the Battle of San Jacinto that gained Texas her independence from Mexico.

Production and transcription of the dramatized forestry series is being handled in the studios of station KRLD at Dallas with professional actors and musicians. Duplicate transcriptions are made and shipped to other stations. The other programs are recorded in the studio of WTAW at A. & M. College.

Calendar of Coming Events

June 17-20, 1946—American Pulp and Paper Mill Superintendents Association, Annual Convention, Poland Springs, Me.

November 4-6, 1946—National Paper Trade Association, Fall Convention, Palmer House, Chicago, Ill.

TAPPI Notes

William C. Gallagher, formerly of the Army, is now in the Technical Service Department of the A. E. Staley Mfg. Company, Decatur, Ill.

J. R. Adams, acting manager of the Technical Division of the Stein, Hall Company, has succeeded Alexander Frieden as official representative of the company in the Technical Association.

Lawrence R. Adkins of the Pond's Extract Company has been transferred from Seymour, Conn., to Mechanic Falls, Maine.

Alfred H. Montville, formerly of the U. S. Marine Corps, is now with the Ecusta Paper Corporation, Pisgah Forest, N. C.

C. D. Cummings has succeeded B. R. Sackett as official representative of the SKF Company in the Technical Association.

The Lithographers National Association will meet at the Marlborough-Blenheim in Atlantic City, N. J., from May 14 to 17, 1946. Members of TAPPI are invited.

Floyd G. Scammon, formerly of Fraser Paper Ltd., is now with the Penobscot Chemical Fibre Company, Great Works, Maine.

Charles Pinat, general director of the Papeteries des Marais et de Ste Marie, France, is visiting paper mills in the United States.

Harvey P. Cannon, formerly of the Mutual Box Board Company, is now with the National Gypsum Company, Garwood, N. J.

Simon Posen, formerly of the O.P.A., is now business manager, Research Department, Rayonier, Inc., Shelton, Wash.

Leo Roberts, formerly of Peter J. Schweitzer, Inc., is now consultant on cigarette, carbon and light weight fine tissues, 716 Eighteenth Ave., Irvington, N. J.

Walter C. Daley, formerly of the Watab Paper Company, is now president of the Daley Paper Company, 400 W. Madison St., Chicago 12, Ill.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
March 23	105.0	March 24	92.1
March 30	104.9	March 31	88.9
April 6	104.1	April 7	86.8
April 13	103.6	April 14	87.4
April 20	102.5	April 21	90.7
April 27	*100.6*	April 28	87.0

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	104.4	*102.7*									

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	80.2	85.3	90.9	102.7	88.6	88.2	88.3	*99.7*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

*Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
March 23	99	March 24	99
March 30	100	March 31	100
April 6	99	April 7	92
April 13	101	April 14	97
April 20	101	April 21	98
April 27	95	April 28	99

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	86	90	91	97	95	85	93	
1946	90	97	100	*99*									

†Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

May 9, 1946

F. A. Burningham, formerly of the Brown Company, is now research associate at the Institute of Paper Chemistry. Mr. Burningham is chairman of the TAPPI Microscopy Committee.

Walter F. Hoffman, formerly of the Fitchburg Paper Company, is now with the California-Oregon Paper Company, Los Angeles, Calif.

T. Ross Moore, formerly of the Anglo-Canadian Pulp and Paper Mills, is now general superintendent of the Gaspesia Sulphite Company Ltd., Chandler, Gaspe Co., Quebec.

Capt. H. L. Field, formerly of the Adjutant General's School, is now with the West Virginia Pulp and Paper Company, Mechanicsville, N. Y.

Harold C. Hopp, engineer for the Standard Cap & Seal Corporation, is now located at 405 Lexington Ave., New York, N. Y.

Joseph C. Harkness has been transferred from the research department to be assistant papermill superintendent for the Johns Manville Company, Manville, N. J.

Lawrence S. Tobias, formerly of the Navy, is now sales engineer for the International Paper Company, New York City.

John B. Chandler, of the Bristol Company, has been transferred from Birmingham, Ala., to Waterbury, Conn.

R. A. Diehm, formerly of the Container Corporation of America, is now director of research and development for the Cuneo Press, Inc., Chicago, Ill.

Paavo Kivi is now technical manager of the Kajaani Oy Sulphite Pulp Mills, Kajaani, Finland.

G. J. Armbruster has retired as superintendent of the Soundview Pulp Company, Everett, Wash.

N. W. Coster is now general superintendent and John M. Carlson is assistant general superintendent of the Soundview Pulp Company.

T. Linsey Crossley, formerly of Defense Industries, Ltd., is now consulting paper technologist, Nitro, Valleyfield, P. Q. Mr. Crossley was recently successful in having one of his water colors hung in the Montreal Art Association Exhibition.

Raymond E. Nelson, formerly of the Navy, is now engineer for the Minnesota and Ontario Paper Company, International Falls, Minn.

Lt. William L. Mackin, formerly of the Navy, is now with the Union Bag and Paper Corporation, Hudson Falls, N. Y.

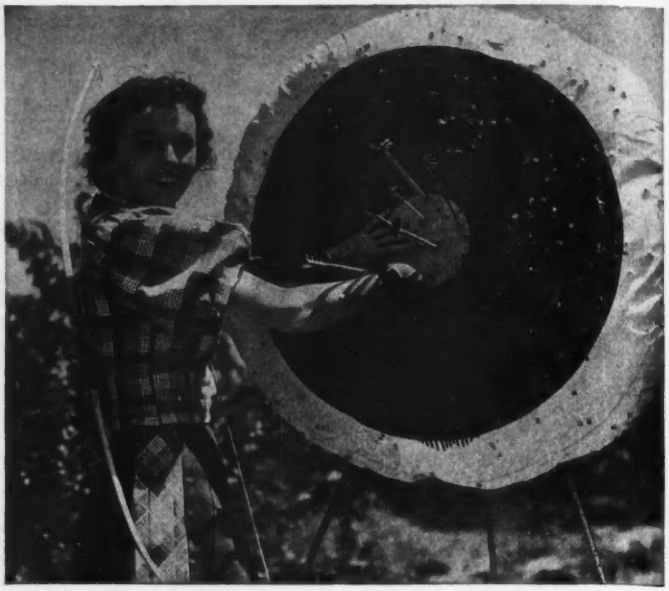
The TAPPI Delaware Valley Section will hold a dinner-dance at the Llanerch Country Club, Manoa, Pa., on Friday, June 4th at 6 p.m. A golf tournament will be held at 2 p.m.

The TAPPI New England Section will meet at the Weldon Hotel, Greenfield, Mass., on May 17-18, 1946. On Friday afternoon there will be visits to the Erving Paper Mills, Esleeck Mfg. Company, and to the Millers Falls Paper Company. Following the dinner Herbert R. Mauersberger, technical editor of the Rayon Textile Monthly, will talk on Fibers Made to Order—Synthetic or Man-made, Especially Those of Interest to the Papermaker.

On Saturday morning Donald H. Powers, Director of Textile Development of the Monsanto Chemical Company, will discuss Identification and Removal of Synthetic Finishes from Cotton Rags and William Benz of the Westinghouse Elec. & Mfg. Company will talk on The Application of Electronics to the Paper Industry. In the afternoon there will be a golf tournament and in the evening a dinner dance. The Connecticut Valley Superintendents Division will be guests of the Section.

Timely Tips to the Young Mill Man

From E. I. du Pont de Nemours & Co. (Inc.)
Grasselli Chemicals Department
Wilmington 98, Delaware



1 YOU HAVE A RIGHT TO BE PROUD of being in the papermaking business. This is an old craft that requires skill. The young man who acquires this skill and has initiative, patience, and *the desire to succeed* will reach the top in this essential industry.

2 AND REMEMBER THIS: don't be afraid to ask for advice or help on any probem you may have. The old-timers in the papermaking business can answer many of your questions. In addition, our staff of chemists at Du Pont is always glad to be of service to you.

3 AT DU PONT, chemists are constantly working on problems involved in good papermaking. We offer technical information and chemicals which can help you in making better paper. For example, "Lignasan" bactericide and fungicide is one of Du Pont's chemicals for your industry. Bled into the system at trouble spots, or added at the beater—about four ounces per ton of dry fiber—"Lignasan" controls slime, keeps the system clean, all the way to the dry cans. Almost any old-timer can tell you about it—or check with your Du Pont man next time he calls.

Du Pont Lignasan
REG. U. S. PAT. OFF.
Bactericide and Fungicide
CONTROLS SLIME—PRESERVES PULP

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

DU PONT
REG. U. S. PAT. OFF.

Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

Tensile Strength of Paraffin Waxes

By F. W. Padgett[1] and R. B. Killingsworth[2]

Abstract

Many of the producers of refined paraffin wax recognize the value of the tensile test as applied to control and maintenance of uniform quality while users in many cases have detected a relation between tensile strength of the wax and its performance in service. Very often, however, the significance of the test in relation to performance has not been properly evaluated and the correlation between various laboratories has been unsatisfactory resulting in confusion and a questionable attitude concerning the value of tensile strength data. As the application of the test becomes better known and standardized, universal dependence upon the test as one means of evaluating fully refined wax is to be expected. The object of this paper is to point out the limitations of the test, and to describe the method and apparatus, especially the Perkins and Tinius-Olsen machines.

The practical value of the tensile test is to distinguish between low, medium, and high tensile waxes, but in the past, and at the present time, this has not always been possible and the value of the information is lost or misconstrued. Table I presents a survey study of tensile tests of standard waxes made in various refinery and users laboratories. The table is self-explanatory and does not require discussion except to state that in some cases the variation from the mean is sufficient to indicate the waxes might be anywhere in the category of low, medium, or high tensile. As will be shown subsequently, greatly improved correlation of results between laboratories will occur upon standardization of rates of load application, refinement of briquet preparation, and use of selected waxes as basic standards.

There is also need for clarification of the significance of the tensile test and the necessity of considering other tests along with the tensile test in judging or predicting the performance of a given wax. Table II presents some selected data illustrating the possible dangers of using any one test as a criterion of performance. These data give a comparison of the tensile strength at 70°F. as determined on the Tinius-Olsen machine with the oil content and adhesive strength of 130/135 EMP fully refined waxes secured from various refineries in the United States in 1944. In a general way it is to be observed that the adhesive strength increases with increase in tensile strength and decrease in oil content although there are two definite exceptions—wax A-7, having the lowest adhesive strength, has next to the highest tensile strength and wax A-2, having next to the highest adhesive strength, has a relatively low tensile strength.

Experience has shown that tensile strength is a useful guide but not a criterion for control of overall quality of paraffin-type waxes. For many applications a medium tensile strength of 65 to 85 pounds per 0.25 square inch at 70°F. on the Tinius-Olsen Modified Plaster Tester, determined at rate of load application of 10 or 20 pounds per second, is a safe range, dependent upon the necessity of the wax meeting other requirements. For example, a high tensile wax would be undesirable for wet waxed paper if it had a tendency to "block" or give poor gloss. Among the various tests available at the present time, tensile strength, however, provides the best indication of the performance in some applications.

Literature

Very little has been published on the tensile strength of paraffin wax. Carpenter *(1)* found that the "breaking strength" was related to oil content and to degree of sweating. His method of test was to suspend a round rod horizontally on two fulcra located near the ends of the specimen and introduce water into a can or bucket suspended by a wire from the middle of the specimen, until a break occurred. The combined weight of the bucket and water at the breaking point were used to calculate the breaking strength by the following formula: WI/d^3 where W equals weight of water and can, I is distance between fulcra and d is diameter of the round specimen (candles). Having a rod of 2 cm. diameter the breaking weight for various waxes tested by Carpenter varied from 1300 up to about 4000/4800 g. depending upon the

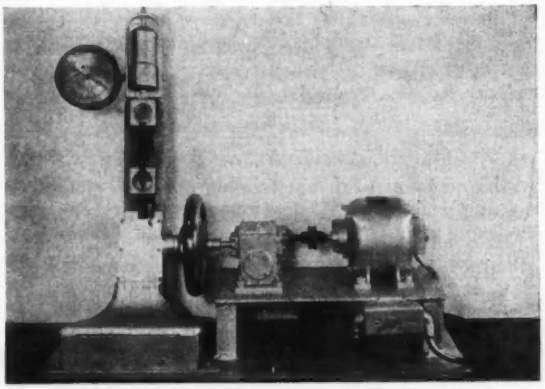


FIG. 1
Perkins Tensile Tester

[1] Moore & Munger Co., New York, N. Y.
[2] Socony-Vacuum Oil Co., Inc., Brooklyn, N. Y.

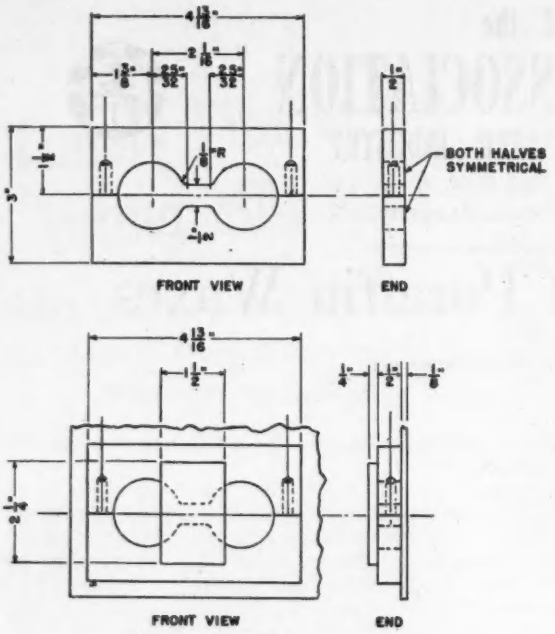


FIG. 2
Briquet Molds and Plates

degree of sweating. Espach *(2)* describes the Perkins machine, a method of preparing samples and making the test, and illustrates the effect of small additions of oil in decreasing the tensile strength. Seyer and Inouye *(3)* consider tensile strength of wax at various temperatures. The test specimens were made by cutting a cake of wax into bars, rounding off with a knife and finally trimming to size in a lathe. The force was applied to the specimen by a combination of weights and shot poured into a beaker located on one pan of a balance, the other arm of the balance being attached to one end of the specimen held stationary in a vertical position at the other end. These investigators found that the tensile strength reached a maximum value of 32 g. per sq.cm. at about 0°C. The wax tested was the grade of fully refined wax known as "parawax" and having a melting point of 130°F. Lysenkova and Raikova *(4)* report a study of the Perkins machine to high oil content Grozny paraffin. Variable results due to difficulty in securing uniform briquets were stated to be overcome by removal of air *in vacuo*.

The Perkins Tensile Tester

Due primarily to its early origin, the Perkins Tensile Tester has the widest acceptance for measuring tensile strength of paraffn waxes of any of the methods to be described. It was developed in the laboratory of a waxed paper company (Menasha Products Co., now the Marathon Corp.) circa 1930. The Perkins tensile tester for paper was modified by the addition of briquet holders and a method of molding briquets was developed. The first machine was hand driven and later motor actuated ones were used. The Perkins Tensile Tester for wax used in the period of 1940/45 is shown in Fig. 1.

It consists of a hydraulic cylinder and piston at the top with a side connection on the cylinder for the maximum reading pressure gage. The piston is connected to one briquet holder, the other holder being attached to a threaded rod in contact with a gear actuated by a motor. A briquet is placed in the briquet holders and as the lower holder is moved downward the oil in the cylinder is compressed, the pressure being registered on the gage.

TABLE I.—SURVEY OF TENSILE STRENGTH OF WAXES (1945)—SAMPLES A AND B

Laboratory	Tensile, Lb./sq. in. A	Tensile, Lb./sq. in. B	Modulus Rupture A	Modulus Rupture B	Rate of Loading	Machine	A/B
							1.33T
1	384	288	482	308		Special	1.56MR
2	178	92				Special	1.93
3	178	97				Special	1.83
4	169	104			25 lb./sec.	Special	1.62
5			294	148	18 oz./min.	Special	1.98
6	304				20 lb./sec.	T. Olsen	
6	280				10 lb./sec.	T. Olsen	
7	300				20 lb./sec.	T. Olsen	
7	272				10 lb./sec.	T. Olsen	
8	304	188			20 lb./sec.	T. Olsen	1.62
8	252	160			10 lb./sec.	T. Olsen	1.57
9	216	136			4 m./min.[1]	Perkins	1.58
10	296	192			12 r.p.m.[2]	Perkins	1.54
11	192	120			6 m./min.	Perkins	1.60
12	335	193			20 lb./sec.	T. Olsen	1.73
13	364	240			6 m./min.	Perkins	1.51
14	328	232			6 m./min.	Perkins	1.41
Average	272	170	388	228			1.63

[1] Rate of extension of briquette holders.
[2] R.p.m. of hand wheel, hand driven.

TABLE II

Wax	Melting Point, ° F., EMP	Oil Content, % [1]	Tensile Strength, at 70° F.[2] Lb./0.25 sq. in.	Adhesive Strength, at 70° F.[3]
A-1	135.5	0.01	109	47
A-2	132.3	0.18	77	41
A-3	133.2	0.18	94	38
A-4	131.5	0.19	81	39
A-5	132.0	0.23	69	38
A-6	132.3	0.32	49	31
A-7	134.2	0.37	102	25
A-8	133.0	0.38	61	27

[1] ASTM D 721-44.
[2] Tinius-Olsen, 10 lb./sec.
[3] On bread wrapper paper.

The briquet molds and plates are shown in Fig. 2. The molds are essentially the same as the original design with the exception that the shoulders are rounded off to a greater extent. A later development in connection with the briquet molds is a brass plate 1.5 inches wide by 2.25 by 0.25 inch thick, which is placed over the shank of the briquets before the wax is poured into the molds. This procedure serves to eliminate the necessity of scraping off the excess wax in the shank to the proper dimensions.

Many variations in the method of preparing the briquets have been developed but the following may be considered a reliable average procedure.

About 300 to 400 grams of wax are melted in a 600 ml. beaker, preferably on a steam bath or in an oven at 200°F. There is only a slight difference if the wax is melted on a hot plate or with a Bunsen

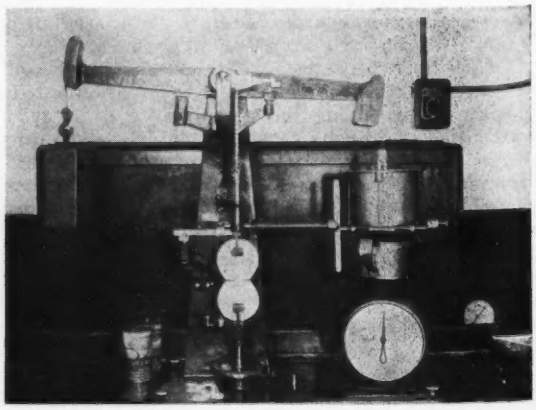


FIG. 3
Tinius-Olsen Modified Plaster Tester

burner over an asbestos gauze. It is essential that water be removed from the wax and one way of doing this is to let the wax stand quietly after melting for 5 or 10 minutes and then decant most of the wax carefully into another beaker.

The molds are placed on 0.25 inch metal (aluminum or copper) plates and the 2.25 × 1.5 × 0.25 inch plates laid over the shank of the mold. The wax, which has been melted and water removed, is heated to 230°F. and then poured into the molds, filling them as full as possible without overflow. A minimum of six molds are poured for each sample to be tested and each flock of molds is preferably handled on an individual plate. The objective in cooling the wax is to impose a constant rate of cooling and aging and if this is not done, poor reproducibility can be expected. The air in the room or cabinet is held at 30 to 60% relative humidity and the reason for this requirement is to make certain that no water is present on the molds or plates.

The wax is allowed to cool for 2 hours at the specified room temperature (70°F. for routine testing) and the briquets are removed from the molds. No greasing of the molds or plates is necessary in the testing of paraffin waxes. The briquets are then placed in water at the requisite testing temperature for 15 minutes before testing.

In testing any wax that sticks to the mold, previous greasing of the molds and plates with an exceedingly thin film of castor oil will eliminate the sticking without apparently affecting the tensile strength.

After breaking the briquets in the tensile machine, an average is made and should any of the briquets be greater or less than 10% above or below the mean, these results are discarded and an average is taken of the remaining values. Values are normally reported as pounds per quarter square inch.

The advantages of the Perkins tester are that practically no technique is required to operate the motor driven unit and the machine can be used for ductile waxes. The rates of loading on the motor driven machines, however, are such that few, if any, paraffin waxes show measurable elongation at 70°F. The disadvantages of the Perkins tester lie in the fact that a slight twist develops when the force is applied to the threaded rod and small air pockets in the hydraulic system cause variable effects on the load application. It is unfortunate that the various Perkins machines in use have rates of jaw separation varying from ⅝ to 6 inches per minute. It would perhaps be better to calibrate each Perkins machine in terms of pounds per second or actual rate of load application.

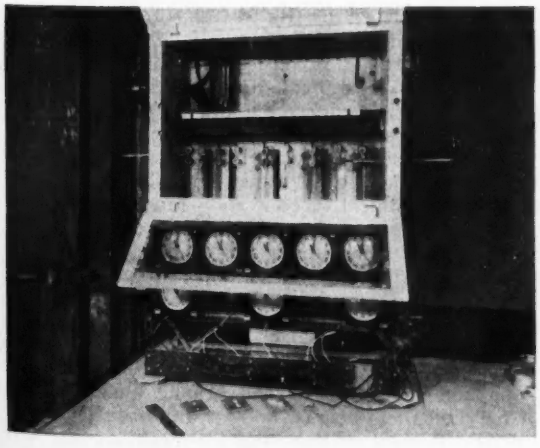
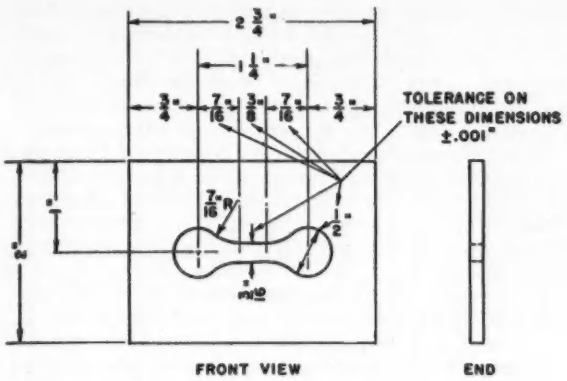
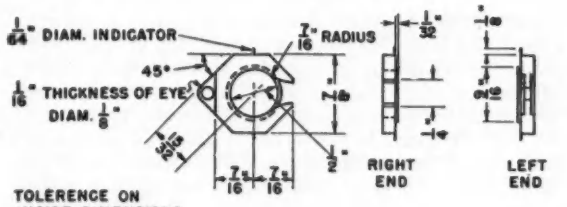


FIG. 4
Tensility Tester



8 BRASS MOLDS - THICKNESS ⅛"



16 BRASS HOLDERS - THICKNESS ⅛"

FIG. 5
Tensility Molds and Briquet Holders

Tinius-Olsen Modified Plaster Tester

This apparatus was developed later than the Perkins machine, in the laboratories of Moore and Munger and the Socony-Vacuum Technical Service Laboratories. The design of this machine was considered favorable, especially because of the positive and regular application of the load possible on the briquets. This machine resembles the original tensile tester for Portland cement in that flow of shot is depended upon to create the load, but the shot cut-off is done electrically instead of mechanically. Essentially the apparatus (see Fig. 3) consists of (1) a simple balance, (2) a method by which the load on one side may be changed, and (3) a suitable arrangement for transmitting this change in load to the wax briquet being tested.

The change in load is accomplished by permitting the shot to drain from a slot in a pan filled with shot, this pan being suspended at the end of the one arm of the balance. The shot falls into a receiving pan resting on a calibrated scale. The transmission of the load to the briquet occurs through a chain to a drum on the center of the beam while the other end is attached to one of the briquet holders. When the briquet breaks, the lower half of the holder falls onto a spring switch, breaking the solenoid circuit and releasing the shutoff arm which closes the slot in the shot pan. It can be shown that a constant rate of change of load is applied to the briquet, equal to the rate of loss of lead shot times a constant factor K. The modification of the original Tinius-Olsen Plaster Tester consisted of no major changes in design but only in details which resulted in improved performance. These changes included a new chain, realign-

ment throughout, increase of lever arc and changes in the gripper jaws of the briquet holders. The last mentioned change was made by milling 0.03 inch from the corners of the jaws where the shank enters the head, resulting in directing the pressure farther up into the head of the briquet and permitting greater freedom of movement, although considerable care is necessary in lining up the jaws of the holders in order to provide a precise downward pull. These changes resulted in more consistent results and greatly improved breakage toward the middle of the shank of the briquets.

In the operation of the Tinius-Olsen machine, careful technique is necessary if improved results are to be secured, and frequent checks with standard waxes are desirable. Inspection of the machine periodically is necessary to insure optimum mechanical operation. The following is the procedure in making the test. Calibrate slot on shot pan for predetermined load. Balance beam with shot and clean briquet holders. Place briquet in briquet holders and tighten adjusting screw until beam just rests on beam stop spring. This closes the circuit by raising the lower briquet holder off the switch. Align briquet with respect to the briquet holders (important) by adjusting the holders until the briquet does not touch either side and at same time bringing the lower holder parallel with the upper. The shut-off arm is brought back into position automatically lowering the armature. Next the switch is closed and the armature returned to its original position. Eliminate any swing or vibration of the shot pan. Open slot by placing left hand on left side of the shot pan to keep it steady and pushing the shot control slide plate quickly to the left with the right hand. Record results and return shot to the pan immediately.

The molds, procedure of preparing briquets, recording and reporting of results are the same as those described for the Perkins tester.

The reproducibility of the Tinius-Olsen machine under conditions of careful operation are shown by the data below. Ten briquets each of two waxes, one high and the other low tensile, were tested on five successive days by one operator, pouring ten briquets of each wax per test.

HIGH TENSILE STANDARD

Tensile, (pounds/0.25 sq. in.)		Deviation from Mean	
	105		0
	106		1
	105		0
	105		0
	106		1
Mean	105	Mean	0.40

$$\frac{0.40}{105} \times 100 = 0.38\%$$

The tensile strength is 105 pounds per 0.25 square inch at 70°F. with load application of 20 pounds per second ± 0.38%, but since the readings on the scale are made to the nearest pound, an error of at least one part in 105 or 1% is involved.

LOW TENSILE STANDARD

Tensile, (pounds/0.25 sq. in.)		Deviation from Mean	
	50		1
	47		2
	47		2
	50		1
	49		0
Mean	49	Mean	1.2

$$\frac{1.2 \times 100}{49} = 2.45\%$$

In this case the deviation is greater not only because the tensile is lower but it was observed that the lower tensile wax crystallized in a less homogeneous manner and even a rough surface was observed on the part of the briquet next to the metal plate.

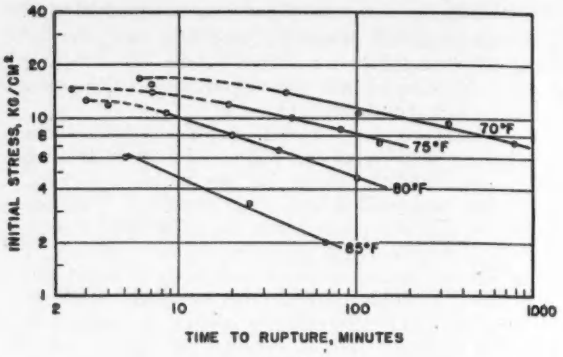


FIG. 6
Tensility Test on 130/133 EMP Fully Refined Wax

In general, between machines in different laboratories and with different operators, a reproducibility within 5 and 10% should be possible and these data should be sufficient to distinguish between waxes of low, medium, and high tensile strength.

The advantages found for the Tinius-Olsen machine are that precise and uniform application of load can be imposed and the results of tests at 70°F. are somewhat more consistent and more representative of actual tensile strength than the Perkins machine. A disadvantage is that with the present design, the apparatus is not suitable for test of waxes displaying any degree of extensibility. This confines the machine to tests of the conventional paraffin waxes at 70°F. or below. Also experience has shown that daily routine inspection of the tester is advisable in insuring satisfactory reproducibility.

Tensility Tester

The preceding methods are designed to measure the tensile strength of crystalline waxes at comparatively fast rates of loading. The Perkins tester, as most generally employed, tests wax briquets under such conditions that little differentiation in elongation or tensile ductility between various paraffin waxes is observed. The Tinius-Olsen tester is designed specifically to operate in the brittle range of solid materials and also does not allow appreciable elongation of the test briquet. A third method, on which no previous information has been published, is the tensility tester *(5)*. This test method is based on the principle described by Kalichevsky *(6)* and is analogous to the "creep" tests which are made on structural materials. It consists of measuring the time of break and elongation effected when a number of test specimens are subjected to different constant loads at desired test temperatures. The method thus measures simultaneously the relative tensile strength and tensile ductility of waxes and, due to accurate temperature control, over a wide range of temperatures. The tensility test was not designed for routine control and is rather tedious to conduct, but it yields very significant information on different types of crystalline waxes.

A photograph of the tensility tester is shown in Fig. 4 which shows the location of the fan, heater, thermoregulator relay, thermometers, test briquets, elongation scales, clocks, and briquet molds. Details of the molds and briquet holders are given in Fig. 5. Behind the eight non-self-starting clocks of Fig. 4 is a loading platform which can be raised or lowered by

compressed air. Loads are applied by gradually lowering the platform to prevent shock loading of the wax specimens. The platform is equipped with eight microswitches connected to the respective clocks which are used for timing the tests. These microswitches are protected from the action of the loads by means of a transite board which is removed as soon as the loads have been applied to the samples. The procedure for running the tensility test is as follows:

Waxes of 110 to 145°F. melting point are heated to 185 ± 5°F. on an electric hot plate with constant stirring to avoid local overheating. The molten wax is then poured into the molds placed on a base plate in a room maintained at 70 to 80°F. Sufficient wax is poured into the molds so that indentations will not form in the shank from contraction of the wax on cooling. After 2 to 10 minutes cooling the excess wax is shaved from each mold with a scraper, leveling it with the surface of the mold. The molds are broken loose from the base plate by gentle tapping and the excess wax shaved from the bottom of the molds. The wax briquets are then removed from the molds by means of an ejector, using care to avoid damaging. The briquets are then aged for at least 16 hours at 70 to 80°F. prior to testing. For waxes of above 145°F. melting point the same procedure is used except that the wax is heated to 230 ± 5°F. and poured into the molds in an oven at a temperature of 100 to 110°F.

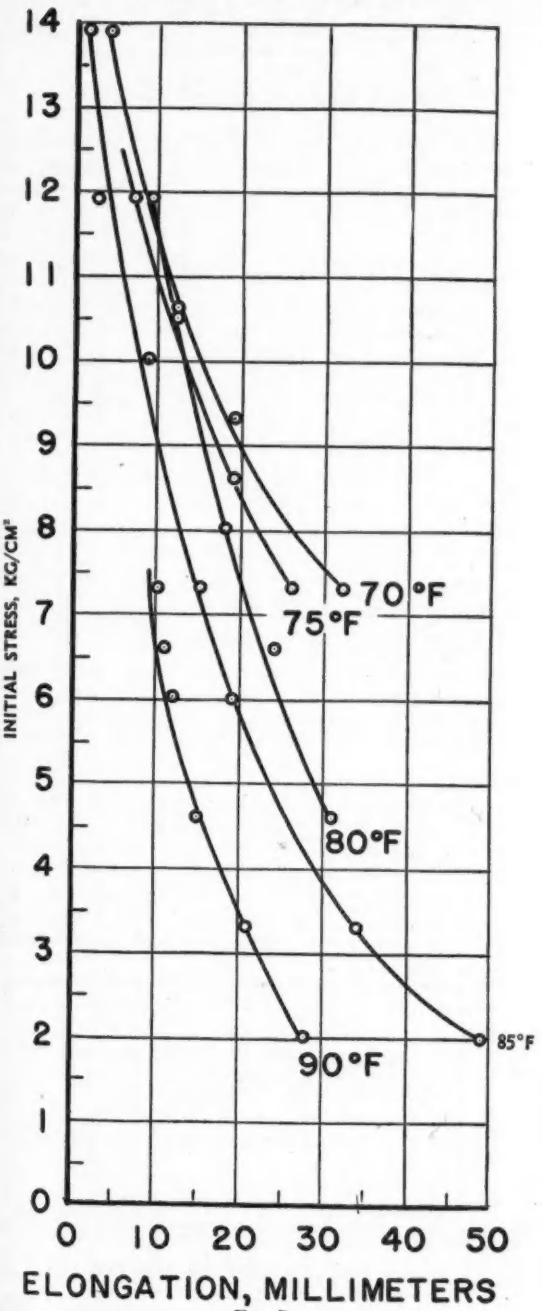


FIG. 7

Tensility Test on 130/133 EMP Fully Refined Wax

The air bath is adjusted to the desired test temperature and the platform is lowered. The weight pans are hung on hooks below the cabinet to remove all load from the briquet holders. The wax briquets are inserted into holders, one of which is suspended from a hook on the beam in the cabinet and the other connected by a braided string to the weight pan. The briquets are allowed to remain at the test temperature for 1 hour before loading.

The clocks are started and the platform raised to its maximum height. Four duplicate sets of weights are placed in the eight weight pans which are then removed from their hooks and placed on the transite board on the loading platform directly below their respective briquets. The loads are gradually applied and the times noted on each clock. The transite board is removed to expose the switches to the impact of the falling pans at the time of rupture, thus stopping the clocks. Readings of elongation are taken at regular intervals and at the completion of test by fitting the two pieces of each briquet and measuring the overall length.

Typical data obtained by this method are given in Figs. 6 and 7 which show the relationship between initial stress and time of rupture and elongation or tensile ductility, respectively, for one type of commercial 130/133 EMP fully refined wax. In general, the reproducibility of this method is good at slightly elevated temperatures, or where small initial stresses are applied. In both cases the waxes are acting as plastic solids. Results become erratic when the wax behaves as a brittle solid.

The outstanding feature of the tensility test is that by measuring the area beneath the initial stress versus rupture curve an indication of "toughness" of the wax at that temperature is obtained. For many practical applications toughness of the wax is more important than the brittle strength.

Modulus of Rupture or Breaking Strength

The American Can Company has developed a method of testing the strength of wax, designated as the modulus of rupture. The test pieces are made by casting on water and then cutting out a number of test sections from this larger piece, each 0.150 inch in thickness, 0.5 inch in width and 3 inches long. The test sections are suspended on two fulcra and a breaking bar near the middle of the test piece is connected with a bucket below. Water is introduced into the bucket at the rate of 18 ounces per minute until the specimen breaks. The MR is calculated by multiplying the total weight in grams by a constant and dividing by the thickness squared times the width. Figure 8 shows the correlation between Tinius-Olsen at 70°F. and 10 pounds per second load against modulus of rupture at 70°F. The waxes tested were

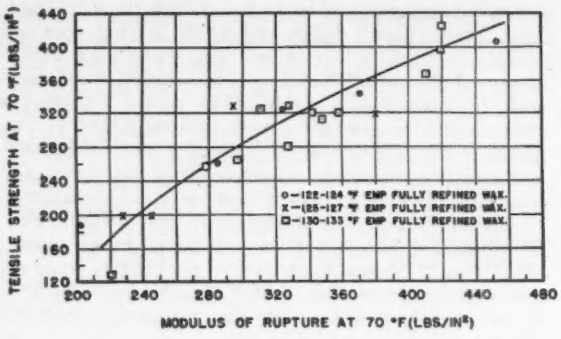

TENSILE STRENGTH AT 70 °F(LBS./IN²)
MODULUS OF RUPTURE AT 70 °F(LBS./IN²)
o—122-124 °F EMP FULLY REFINED WAX.
x—125-127 °F EMP FULLY REFINED WAX.
□—130-133 °F EMP FULLY REFINED WAX.

FIG. 8

Correlation of Tinius-Olsen Tensile Strength with Modulus of Rupture

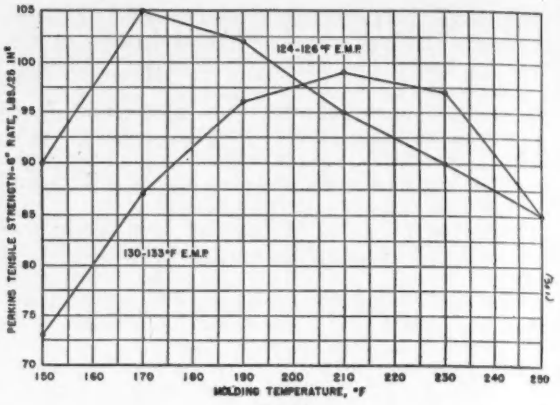


FIG. 9

Molding Temperature vs. Tensile Strength

of various melting points and from various refineries in the United States, some made by sweating and others by solvent recovery, the group being representative of the commercial refined waxes manufactured in 1945.

Other Machines for Testing Tensile and Breaking Strength of Paraffin Wax

Other machines besides the ones described, undoubtedly can be used successfully for testing the tensile strength of wax, provided the rate of loading is regulated and use of standard waxes accepted as a means of bringing tests on various machines into line. At present a special Scott tester is being studied as well as a machine of the Schopper type, two instruments operating on different methods of load application.

Test Variables Affecting Tensile Strength

With any type of tensile tester there are certain factors affecting tensile strength of crystalline waxes which must be taken into consideration. The more important of these are as follows:

Overheating

It is well known that wax upon heating, especially in the air at temperatures above 200°F., undergoes oxidation with consequent development of rancidity, and it has also been shown that severe oxidation results in a decrease in tensile strength due to the fact that scission of the chain occurs in the oxidation. It has been reported that waxes upon heating at a temperature of 160 to 200°F. often display an increase in tensile strength for a few days and then finally a decrease although the cause of this behavior has not been explained. Figure 9 shows some specific data on the effect of temperature of molding the wax briquets on the tensile strength (7). In any case, overheating should be avoided and a standard procedure for handling the wax in the molten condition should be adopted for any type of tensile test.

Aging of Briquets

The time and temperature of aging the briquets has been proved to have an important bearing on the tensile strength of the wax. This is conclusively shown in Table III and Fig. 10 which were drawn from data obtained by the tensility test on a 131°F. EMP fully refined wax. It should be pointed out, however, that under the conditions of relatively high rates of loading the differences indicated in Table III and Fig. 10 would become small. The same behavior is noted in studying the effect of rate of cooling the wax in the molds on the final tensile strength.

Referring to Fig. 2, the ideal breakage of the briquets used in the Perkins and Tinius-Olsen methods is in area 1. However, a fair percentage of the breaks occur in areas 2 and 3 and the tendency of the wax to break towards either end of the shank is undoubtedly due, to a large extent, to the fact that the wax becomes progressively weaker as the center of the round section of the briquet is approached. When briquets break in the areas 4 and 5 the results are almost invariably lower than those when the break is in the shank. This behavior may be due to the mold form in dissipating the heat of the molten wax or to the approach towards the region of greatest contraction of the wax in the briquet, either of which may set up strains in the wax briquet.

TABLE III.—EFFECT OF TIME OF AGING ON TENSILE PROPERTIES[1]

Initial Stress (kg./sq. cm.)	Test Temp. (° F.)	Time of Aging (hr.)	Temp. of Aging (° F.)	Time of Break (min.)
10.2	76.5	2	70-80	13
10.2	76.5	5	70-80	27
10.2	76.5	20	70-80	47
10.2	76.5	40	70-80	48

[1] Tensility Test on 131° F. EMP fully refined wax.

Therefore, modification of the mold to shift breaks towards the middle of the shank should involve not only elimination of sharp corners but consideration of the heat transfer in different sections of the briquet.

Rate of Loading

The importance of standardizing on the rate of loading in comparing the tensile strength of various waxes by any test procedure cannot be over-emphasized. This is illustrated in Fig. 11 which shows the tensile strength versus rate of loading for three commercial grades of fully refined waxes. Figure 10 yield stress, are permanently deformed by very small

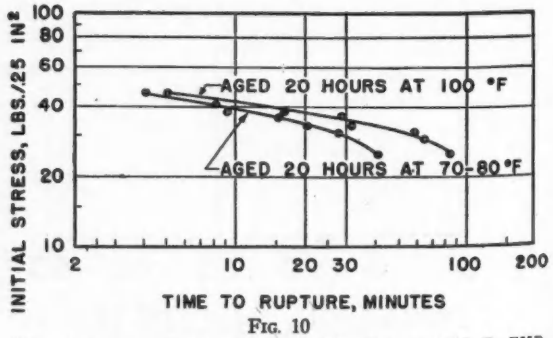


FIG. 10

Effect of Temperature of Aging. Tensility Test on 131° F. EMP Fully Refined Wax at 80° F.

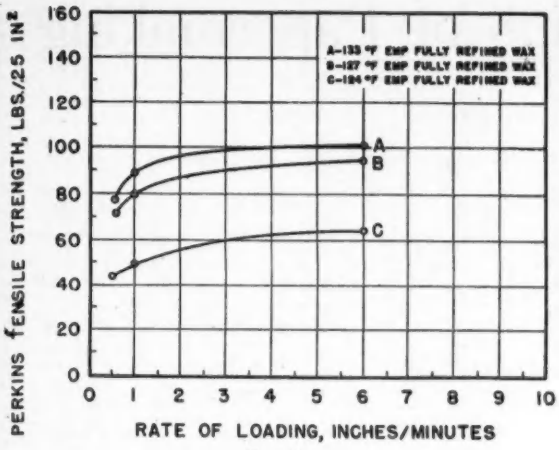


FIG. 11
Effect of Rate of Loading on Tensile Strength

loads and thus are very sensitive to stress applications. While the magnitudes of the values of Table I are certainly dependent on the type of testers employed, the major cause for the lack of agreement between laboratories undoubtedly lies in the different rates of loading used.

TEMPERATURE OF TESTING

The temperature of the wax at the time of testing influences its strength, as will be seen in Fig. 12 which gives tensile values as determined on the Perkins machine at ⅝ inch per minute loading, for four conventional grades of fully refined waxes over a temperature range of 50 to 90°F. It is apparent that above 50°F. the tensile strength decreases slowly until a critical temperature is reached above which the strength drops rapidly.

The percentage of relative humidity in the atmosphere at the time of testing also influences the tensile strength of wax as shown in Fig. 13. While the effect is not marked there is a definite trend toward lower tensile strength values with increasing relative humidities *(7)*.

Use of Standard Samples for Calibration

During the development of the Tinius-Olsen Plaster Tester as a tensile tester for paraffin waxes, sizable quantities of several commercially available grades of fully refined waxes were selected and employed as standards for calibration of each of three testers. The refinements mentioned previously were found necessary to effect adequate correlation on the standard waxes. The results of a typical correlation test on three waxes, employed as standards, are given in Table IV and it is seen that the agreement is quite satisfactory. The use of such standards should be valuable in any effort to reach a better correlation of tensile strength results between laboratories of both wax manufacturers and consumers. At the present time much confusion exists in properly interpreting the true significance of tensile strength paraffin waxes as a measure of quality because of the variety of testers and conditins of testing employed.

TABLE IV.—CORRELATION TESTS ON STANDARD WAXES

Tinius-Olsen tester	No. 1		No. 2	No. 3
Laboratory	A	B	B	C
Wax	Tensile Strength, pounds/0.25 sq. in. *(a)* *(b)*			
High tensile standard (130/133 EMP f. r. wax)	105	107	109, 104	106
Medium tensile standard 130/133 EMP f. r. wax)	82	....	86	86
Low tensile standard (124/126 EMP f. r. wax)	53	53	56, 50	52

(a) Rate of loading, 20 pounds per second.
(b) Test temperature, 70° F.

Conclusions

1. Several types of tensile testers in current use can be used satisfactorily for wax tensile determinations provided wide variations in certain controlling factors are avoided.
2. The wide variations in the Perkins machines are often traceable to different rates of load application though other more intangible factors have their effects.
3. Greatly improved correlation of tensile strength results between laboratories should occur upon standardization of rates of load application, refinement of briquet preparation and use of selected waxes as basic standards for calibration.
4. The preparation of briquets requires reproducible cooling rates and aging conditions if consistent results are to be secured.
5. The practical value of the tensile test in controlling and maintaining uniform quality of paraffin waxes is to distinguish between low, medium, and high tensile waxes. In evaluating overall performance qualities of paraffin waxes, the tensile strength should be considered in conjunction with other tests or analytical data.

Literature Cited

1. Carpenter, *J. Inst. Petroleum Tech.* 12 (1926), 288.
2. R. H. Espach, U. S. Bureau of Mines Bulletin 388.
3. Seyer and Inoye, *Ind. Eng. Chem.* 27 (1935), 567.
4. Lysenkova and Raikova, *Trudy Grosnenskoyo Pererabotka Nefti*, 1939, No. 3, 123-9; *Khim. Referat Zhur.*, 1940, No. 7, 123.
5. Developed at Research and Development Laboratories, Socony-Vacuum Oil Co., Paulsboro, N. J.
6. Kalichevsky, Modern Methods of Refining Lubricating Oils, p. 32. Reinhold Pub. Co., N. Y. C., 1938.
7. Private communication, I. E. Pattillo, Magnolia Petroleum Co.

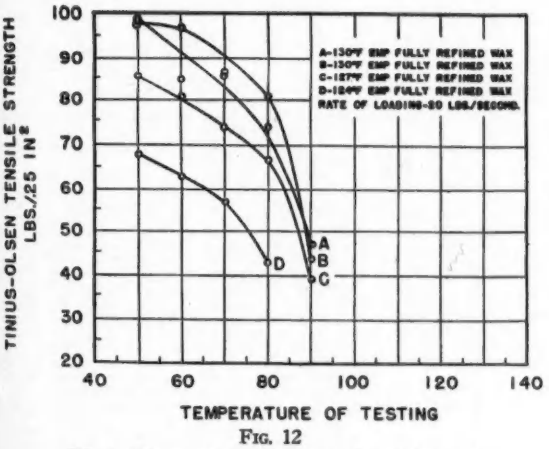


FIG. 12
Effect of Temperature of Testing on Tensile Strength

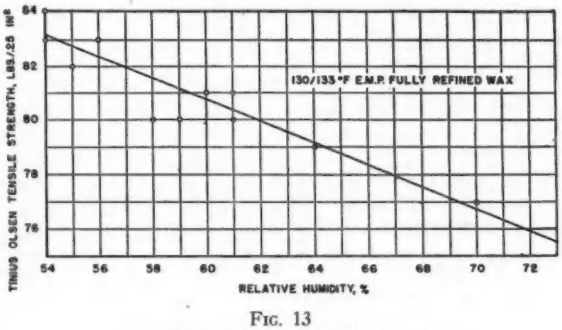


FIG. 13
Relative Humidity vs. Tensile Strength

United States Patents of Papermaking

First Quarter, 1946

Compiled by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents that do not apply specifically to pulp and paper manufacture.

Copies of any of the following patents may be obtained from the United States Patent Office, Washington, D. C., by sending ten cents for each patent desired. The number of the patent, the name of the inventor, and the title of the patent should be given in the request. Personal checks and postage stamps are not accepted in payment for patents. Books of coupons may be purchased for two or ten dollars, good for 20 or 100 patents. Coupon orders do not have to be accompanied by letters of transmittal.

January 1, 1946

2,391,938. Bag closure. Webster N. Baker, Baldwin, N. Y., assignor to Bagpak, Inc. Filed Jan. 16, 1943. 4 claims. (Cl. 229-62).

2,391,946. Method for forming a closure for paper bags. Harry E. Clayton, Holland, N. Y., assignor to Bagpak, Inc. Filed March 15, 1941. 1 claim. (Cl. 112-262).

2,392,005. Partition assembling machine. Albert F. Shields, assignor to S. & S. Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y. Filed May 3, 1941. 14 claims. (Cl. 93-37).

2,392,026. Consistency regulator. Hervey G. Cram, assignor to Manitowoc Shipbuilding Company, Manitowoc, Wis. Filed Oct. 14, 1944. 5 claims. (Cl. 137-78). The apparatus consists of a casing having an inner and an outer chamber, the chambers having an annular slot in common with a runner operated at a constant rate of speed in the slot, which in conjunction with the walls of the slot defines restricted slits.

2,392,062. Package. Edward W. Quackenbush, Chicago, Ill. Filed Sept. 14, 1942. 2 claims. (Cl. 229-63). A mailing package comprising an envelope-like receptacle.

2,392,094. Method of making valve bags. Harry E. Lee, assignor to St. Regis Paper Company, New York, N. Y. Filed Nov. 12, 1940. 2 claims. (Cl. 93-35). Method of making a multi-ply bag with a valve.

2,392,103. Mixed thio ethers. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed Nov. 24, 1942. 4 claims. (Cl. 260-217). A chemical wood pulp has incorporated therein 0.01 to 0.2% (on bone-dry weight of the pulp) of a water-soluble mixed thio ether containing a polyethylene oxide radical and an aliphatic hydrocarbon radical containing more than 7 carbon atoms.

2,392,149. Paper machine sectional drive. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed March 25, 1943. 12 claims. (Cl. 74-286). A mechanical drive.

2,392,150. Suction roll helper drive. Lloyd Hornbostel and Edward D. Beachler, assignors to Beloit Iron Works, Beloit, Wis. Filed May 20, 1942. 10 claims. (Cl. 92-44). A method of correlating the amount of drive on the primary suction couch roll with the traction between this roll and the wire by varying the driving effect of the helper drive.

2,392,206. Method of making fluid-tight bags. Harry F. Waters, New York, N. Y. Filed Dec. 5, 1941. 3 claims. (Cl. 93-35).

2,392,239. Bituminous roofing material. George A. Fasold and Harold W. Greider, assignors to The Philip Carey Manufacturing Company, Lockland, Ohio. Filed May 5, 1942. 2 claims. (Cl. 108-7).

January 8, 1946

2,392,395. Method and apparatus for packaging food products. Sylvester C. Lehman, Jersey City, N. J. Filed Aug. 22, 1942. 8 claims. (Cl. 99-182). A method of sterilizing and waterproofing containers and filling under sterilized conditions.

2,392,435. Process of disposal of sulphite waste liquor. Richard G. Tyler, Seattle, Wash. Filed Jan. 25, 1943. 17 claims. (Cl. 23-48). The sulphite waste liquor at digester strength is passed through an acid-resistant base exchanger (which has previously been regenerated by a solution of sodium chloride), thus substantially freeing the liquor from calcium compounds, after which the liquor is concentrated and burned to a smelt containing sodium salts.

2,392,575. Box liner. Edward D. Budge, Chapin P. Hunt, and Donald E. Lent, assignors to Zellerbach Paper Company, San Francisco, Calif. Filed April 3, 1944. 3 claims. (Cl. 229-14).

2,392,583. Water system for paper wrapping machines. Frank A. De Traglia, Utica, N. Y. Filed Oct. 28, 1943. 2 claims. (Cl. 91-48).

2,392,594. Composite decorative material. Edward Karfiol and William A. Roehm, assignors to Royal Lace Paper Works, Brooklyn, N. Y. Filed Nov. 4, 1944. 5 claims. (Cl. 154-47).

2,392,630. Packing case. Albert P. D. Belanger, assignor of one-half to Jacob Teller, both of Chicago, Ill. Filed Aug. 17, 1942. 9 claims. (Cl. 229-41).

2,392,746. Carton stacking mechanism. Harold S. Labombarde, assignor to The International Paper Box Machine Company, Nashua, N. H. Filed Aug. 2, 1944. 11 claims. (Cl. 271-87).

January 15, 1946

2,392,808. Neutralizing apparatus and manufacture of same. William H. Chapman, assignor to Chapman Electric Neutralizer Company, Portland, Maine. Filed Aug. 30, 1941. 7 claims. (Cl. 175-264). Apparatus for neutralizing static electric charges.

2,392,811. Fertilizer and making same. Eric W. Eweson, New York, N. Y. Filed April 7, 1943. 7 claims. (Cl. 71-9). Yeast is produced in sulphite waste liquor containing lignin in solution, the fermentation being accompanied by vigorous aeration, and the whole mash is dried at a temperature sufficiently low to preserve vitamins and live yeast in admixture with the water-soluble lignin and nutrient salts.

2,392,863. Asphalt preparation. Kenneth H. Rudd, assignor to The Standard Oil Company, Cleveland, Ohio. Filed Nov. 20, 1940. 1 claim. (Cl. 106-123). Asphalt has incorporated therein not more than 5% of tall oil to improve its property of adhering to wet stone surfaces.

2,392,923. Machine for manufacturing recessed plasterboard. Ralph H. Hurd, assignor to United States Gypsum Company, Chicago, Ill. Filed April 11, 1942. 15 claims. (Cl. 154-1). A crimping device for a continuously moving fabric web for plasterboard cover sheets.

2,392,959. Paperboard drum. Raymond H. Van Saun, assignor to Container Corporation of America, Chicago, Ill. Filed Aug. 21, 1943. 15 claims. (Cl. 229-5.5).

2,392,972. Coated paper. La Verne E. Cheyney, assignor to Wingfoot Corporation, Wilmington, Del. Filed Nov. 15, 1944. 14 claims. (Cl. 117-76). Paper is coated with a polymer of a monomeric substance containing at least 75% of vinyl chloride and then with a solution of a co-polymer from 40 to 80% vinylidene chloride and from 60 to 20% vinyl chloride dissolved in an aromatic hydrocarbon and evaporating the aromatic hydrocarbon.

2,392,983. Match-book making machine. Nelson E. Garrison, assignor to Joseph Shapiro, Baltimore, Md. Filed Jan. 10, 1945. 3 claims. (Cl. 93-2).

2,393,114. Bottle carrier. Joseph L. Lyons, Jr., assignor to Lyne Co., Chicago, Ill. Filed July 16, 1941. 11 claims. (Cl. 224-45).

2,393,179. Sizing compositions. Robert T. Mashburn, assignor to Hercules Powder Company, Wilmington, Del. Filed Dec. 11, 1941. 18 claims. (Cl. 106-143). A size consists of a dispersion of free rosin and a nonalkaline organic dispersing agent for the rosin in an amount sufficient for dispersing the rosin, in a nonalkaline aqueous medium comprising water and a protective colloid; the size is substantially free of rosin soap.

January 22, 1946

2,393,244. Paper machine head box. Philip H. Goldsmith, Wilmington, Del. Filed May 9, 1941. 1 claim. (Cl. 92-46).

2,393,277. One-piece self-locking carton. Allyn C. Beardsell, assignor to Western Electric Company, Incorporated, New York, N. Y. Filed Nov. 6, 1943. 7 claims. (Cl. 229-16). A container for vacuum tubes or similar articles.

2,393,347. Method of making containers. Kimberly Stuart, Menasha, Wis., and Allen B. Wilson, Evanston, Ill., said Wilson assignor to Elizabeth R. B. Stuart. Filed Oct. 26, 1940. 18 claims. (Cl. 93-39.1). Method of forming a tubular container.

2,393,356. Container. Clifford D. Fallert, assignor to Gaylord Container Corporation, St. Louis, Mo. Filed Aug. 3, 1944. 9 claims. (Cl. 229-45).

2,393,383. Boxmaking. Cutler D. Knowlton, assignor to Hoague-Sprague Corporation, Lynn, Mass. Filed Sept. 10, 1941. 68 claims. (Cl. 93-49).

2,393,529. Apparatus for applying coatings to web material. Herman R. Harrigan, assignor to District of Columbia Paper Mills, Inc., Washington, D. C. Filed Jan. 19, 1940. 4 claims. (Cl. 91-50). One portion of the mechanism transferring the coating material consists of a roller having a multiplicity of equal and uniform minute pocket-like surface indentations distributed over the entire surface of the roller.

2,393,553. Process of pulp preparation and product thereof. David M. Musser and Harry C. Engel, assignors to National Cotton Council of America, Memphis, Tenn. Filed Dec. 5, 1940. 5 claims. (Cl. 92-21). The fibrous material is beaten in an aqueous solution whose solute consists essentially of 0.3% methylcellulose.

January 29, 1946

2,393,586. Slitting and scoring apparatus. Hobart W. Bruker, assignor to George W. Swift, Jr., Inc., Bordentown, N. J. Filed Nov. 7, 1944. 6 claims. (Cl. 164-60). A paperboard slitting apparatus.

2,393,672. Mechanism for creping paper. Frederick P. Wood, assignor to Simplex Paper Corporation, Adrian, Mich. Filed June 26, 1944. 6 claims. (Cl. 154-30).

2,393,734. One-piece self-locking carton. Allyn C. Beardsell, assignor to Western Electric Company, Incorporated, New York, N. Y. Filed Nov. 6, 1943. 7 claims. (Cl. 229-6). A blank for fashioning a quick fold fragile article container.

2,393,739. Valved bag. Charles V. Brady, assignor to Bemis Bro. Bag Company, St. Louis, Mo. Filed Nov. 12, 1943. 10 claims. (Cl. 229-62.5). A bag valve made up of an end area near a corner of the bag at its mouth edge.

2,393,758. Liquid carton. Otto P. Downing, Dallas, Texas. Filed July 8, 1944. 6 claims. (Cl. 229-17).

2,393,783. Preparation of chemical cellulose for esterification. Donald J. Kridel, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Aug. 24, 1943. 2 claims. (Cl. 241-1). Wood pulp board containing at least 60% water is subjected to a violent blast of compressed air to blow the fibers apart and, while in the resulting highly plastic condition, it is conveyed by means of drying air to remove the moisture and assure the absence of compact lumps.

February 5, 1946

2,393,978. Log barking apparatus. Miles L. Edwards, Donald K. MacBain, and Lester M. Johnson, assignors to Weyerhaeuser Timber Company, Longview, Wash. Filed July 14, 1942. 16 claims. (Cl. 144-208). A hydraulic log barker.

2,393,987. Composite material. Jesse Harmon, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Nov. 26, 1941. 2 claims. (Cl. 154-50). Waterproof paper (treated with an oil or wax) is adhesively joined to a member with a film of diisocyanate-treated synthetic linear polyester-amide.

2,393,994. Box or carton. Richard Kuhlman, assignor to Tung-Sol Lamp Works, Inc., Newark, N. J. Filed Jan. 22, 1943. 2 claims. (Cl. 229-38). A collapsible carton.

2,394,000. Synthetic resin and process of making same. Thomas R. McElhinney, New Orleans, La., assignor to William J. Gibbens, Jr. Filed Oct. 31, 1940. 20 claims. (Cl. 260-9). Aldehydes and ketones are liberated from lignocellulosic material by acid hydrolysis in the presence of live steam under pressure and simultaneously reacted with phenol to form resins.

2,394,007. Machine for making fiber containers. Horace J. Paynter, assignor to American Can Company, New York, N. Y. Filed Dec. 20, 1941. 8 claims. (Cl. 271-32).

2,394,050. Shopping bag carrier. Charles A. Goza, Los Angeles, Calif., assignor of one-half each to Harry E. Herbert, Los Angeles, and George F. Notterman, Alhambra, Calif. Filed March 13, 1944. 5 claims. (Cl. 229-54).

2,394,129. Photoelectric consistency indicating method. Douglas L. West, assignor to Howard Smith Paper Mills Limited, Montreal, Quebec, Canada. Filed June 23, 1941. 2 claims. (Cl. 88-14). Variations in the consistency or turbidity of solutions or suspensions can be determined by the use of two photoelectric cells.

2,394,182. Paper stock distintegrator. John Inglis, assignor of one-half to Clyde Paper Company Limited, both of Rutherglen, Scotland. Filed Nov. 18, 1942. 14 claims. (Cl. 92-26).

2,394,233. Coating compositions. William

L. Craig, assignor to R. T. Vanderbilt Company, Inc., New York, N. Y. Filed July 25, 1945. 4 claims. (Cl. 106-214). The composition contains 15 to 35 parts of starch (by weight) for each 100 parts of filler and has a content of from 25 to 72% of starch and filler by weight of the total composition; the viscosity does not exceed about 20,000 centipoises at 73° F.

2,394,254. Thermoplastic coating. Thomas W. Noble, Detroit, Mich. Filed Aug. 12, 1943. 1 claim. (Cl. 106-171). An adhesive coating for paper consists of two parts of stearic acid, one part of ethylcellulose, and one part of paraffin wax.

2,394,256. Method of separating fibrous boards from their supporting members. Ernst A. I. Orrmell, assignor to Svenska Cellulosa Aktiebolaget, Stockholm, Sweden. Filed Feb. 8, 1943. 1 claim. (Cl. 92-54). A method of separating fibrous boards after drying from supporting members having liquid outflow apertures therethrough.

2,394,273. Defibering of wet strength paper. Walter M. Thomas, assignor to American Cyanamid Company, New York, N. Y. Filed April 1, 1942. 7 claims. (Cl. 92-1.5). Paper containing melamine, urea, or thiourea resins is heated in a 0.6% suspension at a pH of less than about 5 at a temperature of 100 to 212° F. and subjected to mechanical disintegration until the paper is defibered.

2,394,289. Photographic paper. Fred W. Boughton, assignor to Eastman Kodak Company, Rochester, N. Y. Filed Sept. 12, 1944. 7 claims. (Cl. 95-8). The base paper is sized with 0.25 to 5% (on basis of bone-dry weight of the pulp) of a melamine resin and the aluminum salt of a monobasic acid; the size imparts high wet strength and resistance to blistering and frilling to the paper.

2,394,335. Bag for garbage and the like. Joseph M. Shapiro, Richfield, Conn. Filed Feb. 24, 1944. 4 claims. (Cl. 229-55).

2,394,370. Treatment of cellulose. Robert B. Darling, assignor to Hercules Powder Company, Wilmington, Del. Filed May 12, 1945. 6 claims. (Cl. 260-229). In the preparation of cellulose in a form suitable for esterification, purified cellulose is treated with water containing less than 100 p.p.m. of dissolved calcium and about 33% as much magnesium to incorporate with the cellulose from 0.001 to 0.03% of magnesium (by weight of the cellulose).

2,394,378. Riffler for cellulose stock. William E. Henry, assignor to Hercules Powder Company, Wilmington, Del. Filed Aug. 7, 1943. 4 claims. (Cl. 92-28).

2,394,420. Adhesive handling device. Howard G. Allen and Elden R. Kenison, assignors to Consolidated Packaging Machinery Corporation, Buffalo, N. Y. Filed Jan. 1, 1944. 9 claims. (Cl. 91-47).

2,394,509. Head box slice for papermaking machines. Leo J. Boettinger, Sartell, Minn. Filed May 3, 1943. 4 claims. (Cl. 92-44).

February 12, 1946

2,394,615. Method of obtaining sterol and the like from tall oil. John D. Jenkins, assignor to Pittsburgh Plate Glass Company, Allegheny County, Pa. Filed Dec. 19, 1941. 3 claims. (Cl. 260-97.5). After removing the acid components, the nonacid components are treated with an anhydride of a dicarboxylic acid in benzene or ether, the half ester is neutralized with alcohol, the nonesterifiable components are extracted with ether or benzene, and the aqueous solution is boiled with alkali to hydrolyze the half ester and regenerate the free sterol.

2,394,850. Foldable box. Guy J. Evans, Buffalo, N. Y. Filed May 1, 1943. 1 claim. (Cl. 229-42).

2,394,935. Method and apparatus for forming lined boxes. Frank D. Palmer, Chicago, Ill., assignor to Kraft Foods Company. Filed Aug. 11, 1941. 27 claims. (Cl. 93-36.01).

February 19, 1946

2,394,989. Manufacture of cellulose. Henry Dreyfus, London, England; Claude Bonard, administrator. Filed March 9, 1943. 4 claims. (Cl. 92-9). The raw material is boiled 1 hour with 1% aqueous sodium hydroxide, subjected at 40 to 70° for 4 to 6 hours with 70 to 120% of its weight of hydrogen peroxide in the presence of 40 to 69% aqueous acetic acid which contains 5 to 15% of manganese acetate (on weight of raw material), and finally boiled with 0.5 to 1% aqueous alkali for 15 to 30 minutes.

2,395,055. Odor refining sulphate turpentine. Eugene J. Lorand, assignor to Hercules Powder Company, Wilmington, Del. Filed Sept. 7, 1942. 8 claims. (Cl. 260-675.5). Sulphate turpentine is freed from malodorous compounds by treatment with silver peroxide.

2,395,077. Sheet material and seam construction. Charles A. Southwick, Jr., assignor to Shellmar Products Company, Mount Vernon, Ohio. Filed May 3, 1943. 2 claims. (Cl. 93-35). A method of making bags.

2,395,218. Felted wood fiber machinable cork-substitute material. Joseph H. Gauthier, Los Angeles, Calif. Filed Dec. 22, 1941. 1 claim. (Cl. 92-3). The material contains about 80% of substantially acid-free coniferous fibers (about ⅛ to ⅜ inch long and containing all the lignin and natural incrustations) and 20% partially hydrated chemical wood pulp.

2,395,282. Process for the separation of fatty acid and rosin acid sodium salts and sterols from mixtures thereof. Joseph J. Lovas, Ridgewood, and Paul F. Bruins, Douglaston, N. Y. Filed Aug. 1, 1942. 13 claims. (Cl. 260-97.5). Kraft pulp mill soap is extracted with a mixture of about 97% aliphatic ketone of not more than 9 carbon atoms per molecule and 3% water, whereby the sodium salts of fatty acids and oxidized rosin acids are separated as an insoluble precipitate.

2,395,283. Method of treating crude kraft soap. Joseph J. Lovas, Ridgewood, and Paul F. Bruins, Douglaston, N. Y. Filed Aug. 1, 1942. 6 claims. (Cl. 260-97.5). The dried crude kraft soap is treated with substantially anhydrous liquid aliphatic ketone of not more than 9 carbon atoms per molecule, which dissolves sterols, other unsaponifiables, and also the ketone-soluble sodium resinates and removing the undissolved sodium salts of fatty and rosin acids and oxidized rosins.

2,395,284. Process of separating and recovering constituents of waste liquor from the soda and sulphate processing of coniferous woods. Joseph J. Lovas, Ridgewood, and Paul F. Bruins, Douglaston, N. Y. Filed Aug. 1, 1942. 8 claims. (Cl. 260-97.5). In the selective esterification of the fatty acids with a monohydric alcohol and saponification of the rosin acids, a substantially anhydrous aliphatic ketone (acetone, methyl ethyl ketone, or diethyl ketone) is added to the mixture of esterified and saponified constituents, whereby the constituents are dissolved with the exception of light sodium abietate.

2,395,301. Method of making filter members. Edward C. Sloan, assignor to Jesse B. Hawley, Geneva, Ill. Filed Aug. 3, 1940. 3 claims. (Cl. 92-55). In making a filter member with a controlled degree of porosity, a synthetic resin is added to the fiber suspension and the porosity is controlled by adding an inert material, such as diatomaceous earth, kieselguhr, fuller's earth, and the like.

2,395,352. Box making machine. Edwin G. Staude and Paul E. Fischer, assignors to E. G. Staude Manufacturing Company, St. Paul, Minn. Filed June 23, 1941. 6 claims. (Cl. 93-36).

2,395,363. Container. Benjamin M. Williams, assignor to Gaylord Container Corporation, St. Louis, Mo. Filed March 3, 1944. 3 claims. (Cl. 229-35). A carton comprising a body with a hand hole and a cover therefor.

2,395,364. Container. Benjamin M. Williams, assignor to Gaylord Container Corporation, St. Louis, Mo. Filed March 3, 1944. 3 claims. (Cl. 229-35).

2,395,375. Method for producing a variegated surface on fiberboard. Harry K. Linzell, assignor to United States Gypsum Company, Chicago, Ill. Filed March 31, 1941. 10 claims. (Cl. 92-41). The material is impregnated with a liquid solution of a bleeding dye, the liquid is evaporated from the surface of the material, and a portion of the dyed surface is removed, exposing undyed portions.

February 26, 1946

2,395,483. Burning of sulphur. Hector G. James, assignor to Imperial Chemical Industries Limited, London, England. Filed Jan. 28, 1942. 2 claims. (Cl. 299-119).

2,395,533. Papermaking machine suction device. Everett W. Clem, assignor to Rice Barton Corporation, Worcester, Mass. Filed Dec. 3, 1943. 5 claims. (Cl. 92-51). A suction box with a perforated top has a movable end wall for the suction chamber and means for adjusting it.

2,395,663. Carton. Stanley R. Howard, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed Oct. 9, 1943. 4 claims. (Cl. 229-37).

2,395,668. Liner for adherent rubber surfaces and the like. Waldo Kellgren and Warren D. Hurd, assignors to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed Nov. 3, 1941. 7 claims. (Cl. 206-59). In a roll of double coated pressure-sensitive adhesive tape, an interwound liner of creped paper is impregnated and coated on both sides with a composition containing ethoxyethylcellulose, hydrogenated castor oil wax, and a higher fatty acid.

2,395,703. Laminated sheet pulp container and method of forming same. Lee M. Wiley, Marion, Ind., assignor of one-third each to Julian T. Lett and Reeley B. Wiley. Filed Dec. 3, 1942. 1 claim. (Cl. 154-2). Method of forming a deep drawn, seamless, laminated wall container.

2,395,711. Collapsible bottle carrier. Bernard Arnold, Laurel, Md. Filed Jan. 5, 1945. 4 claims. (Cl. 229-52).

2,395,734. Straw and milk container combination. Michael L. Georgopoulos, Washington, D. C. Filed Nov. 12, 1943. 3 claims. (Cl. 229-7).

2,395,754. Method of making containers. John G. O'Neil and Lawrence G. Zesbaugh, assignors to Carl Weinhagen, Jr., St. Paul, Minn. Filed Sept. 24, 1943. 9 claims. (Cl. 93-39.1).

March 5, 1946

2,395,845. Hydraulic log-barking machine. Harry E. Bukowsky, assignor to Crown Zellerbach Corporation, San Francisco, Calif. Filed Jan. 4, 1943. 9 claims. (Cl. 144-208).

2,395,903. Coating machine. Ronald E. J. Nordquist, assignor to American Can Company, New York, N. Y. Filed Jan. 18, 1941. 9 claims. (Cl. 91-51).

2,395,915. Press roll for papermaking. Harry G. Specht, Montclair, N. J. Filed July 13, 1942. 8 claims. (Cl. 92-49).

2,395,917. Method of making blankets. Mauritz A. Sterner, Forest Hills, N. Y. Filed Nov. 16, 1943. 8 claims. (Cl. 154-28). Paper webs are coated with a waterproofing material, creped, dried, and formed into blankets.

2,395,992. Mineral-coated printing paper. John W. Clark, assignor to S. D. Warren Company, Boston, Mass. Filed April 1, 1944. 2 claims. (Cl. 117-65). A coating of between 10 and 25 pounds per ream of calcium carbonate (average particle size about 1 micron and casein requirement less than 25) is applied to the paper, after which it is dried and subjected to a special supercalendering operation.

2,396,010. Novelty carton. Solon Isenberg, New York, N. Y., assignor of one-half to Nathaniel Shapiro, Philadelphia, Pa. Filed May 12, 1944. 1 claim. (Cl. 229-8).

2,396,150. Box. Edward J. Bonville, assignor to Robertson Paper Box Co., Inc., Montville, Conn. Filed Feb. 1, 1943. 6 claims. (Cl. 229-44).

2,396,168. Collapsible box. Harry W. Finn, assignor to Consolidated Paper Company, Monroe, Mich. Filed Nov. 25, 1943. 1 claim. (Cl. 229-39).

March 12, 1946

2,396,255. Log barking apparatus. Miles L. Edwards, Donald K. MacBain, and Lester M. Johnson, assignors to Weyerhaeuser Timber Company, Longview, Wash. Filed July 14, 1942. 8 claims. (Cl. 144-208). A hydraulic log barking apparatus.

2,396,262. Apparatus for closing bags. Carl H. Hartman, Esli A. Marsh, and Neill E. Dorrington, assignors to St. Regis Paper Company, New York, N. Y. Filed May 2, 1939. 5 claims. (Cl. 112-11). Apparatus for feeding the top of a filled bag to a sewing machine.

2,396,310. Reclosable carton. Gibson Yungblut, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed April 15, 1944. 8 claims. (Cl. 229-44). A carton blank.

2,396,315. Slitting and scoring machine. Hobart W. Bruker, assignor to George W. Swift, Jr., Inc., Bordentown, N. J. Filed Nov. 1, 1944. 7 claims. (Cl. 164-61). A slitting and/or scoring machine for paperboard.

2,396,342. Waterproofing composition. Augustus B. Quick, East Norwich, N. Y. Filed Feb. 11, 1944. 3 claims. (Cl. 260-4). The composition contains 15 to 55 parts chlorinated rubber, 15 to 55 parts of polyterpene resin, 5 to 50 parts of metal soap, and a volatile solvent.

2,396,358. Article formed of laminated sheet material. Isaac L. Wilcox, assignor to Oswego Falls Corporation, Fulton, N. Y. Filed May 20, 1942. 5 claims. (Cl. 215-38). A hood type bottle cap.

2,396,391. Alterproofing record material. John D. Ross, assignor to International Business Machines Corporation, New York, N. Y. Filed Dec. 29, 1944. 15 claims. (Cl. 117-1). A method of printing check paper with an overall line design.

2,396,394. Apparatus for determining the roughness of surfaces. Harry Shaw, Rochdale, England. Filed May 26, 1943. 4 claims. (Cl. 73-105).

2,396,417. Adhesive applicator for wrapping machines. Carl A. Gerlach, Spring Lake, Mich. Filed May 1, 1944. 8 claims. (Cl. 91-14).

2,396,466. Apparatus for making masking tape. Charles A. Herold, assignor to Paper Novelty Manufacturing Company, New York, N. Y. Filed Oct. 20, 1943. 7 claims. (Cl. 154-1).

2,396,471. Tall oil treatment. Arthur L. Osterhof, assignor to Hercules Powder Company, Wilmington, Del. Filed May 1, 1942. 11 claims. (Cl. 260-97.5). Tall oil is heated with a catalyst of the class RSO_3H and $ROSO_3H$ (where R is an organic radical) at 150 to 325° C. for 0.25 to 12 hours to decarboxylate the resin acid component and, after neutralization, the decarboxylated resin is extracted with a selective solvent.

2,396,473. Bottle carrier. Henry K. Powell, assignor to Morris Paper Mills, Chicago, Ill. Filed March 17, 1941. 5 claims. (Cl. 224-45).

2,396,543. Envelope and opener combined. Manuel Velazquez, Mobile, Ala. Filed Dec. 11, 1943. 1 claim. (Cl. 229-86).

2,396,565. Package. Charles E. Gardner, assignor to Wingfoot Corporation, Akron, Ohio. Filed Dec. 24, 1943. 1 claim. (Cl. 229-58). A collapsed, two-ply gusseted bag, the outer ply of which is composed of paper.

2,396,587. Apparatus for producing pulp. Karl A. U. Lowgren, Alf A. Alfsen, and

Hjalmar S. Messing, assignors to American Defibrator, Inc., New York, N. Y. Filed March 20, 1941. 4 claims. (Cl. 92-7). A means of abrading raw papermaking material in a conduit in the presence of steam.

MARCH 19, 1946

2,396,646. Art of preparation of valuable substances from tall oil. Russell G. Dressler, Middle River, Md., Robert E. Vivian, Los Angeles, Calif., and Torsten Hasselstrom, Savannah, Ga. Filed March 11, 1940. 8 claims. (Cl. 260-97.5). A method of separating fatty acid and resin acid from tall oil, in which the fatty acid is obtained as an ester and the resin acid as an alkali salt.

2,396,651. Art of separating constituents of tall oil. Torsten Hasselstrom, Savannah, Ga. Filed Dec. 23, 1943. 13 claims. (Cl. 260-97.5). The fatty acid fraction is esterified with alcohol, the alcohol is removed, a disproportionation catalyst is added, and the mixture is heated at 185 to 230° C., forming dehydroabietic and dihydroabietic acids, and the products are separated into a fraction rich in stabilized resin acids and a fraction rich in fatty acid esters.

2,396,694. Cylinder type papermaking machine and method. John E. Goodwillie and Earl E. Berry, assignors to Beloit Iron Works, Beloit, Wis. Filed May 31, 1941. 24 claims. (Cl. 92-43). Means co-operating with rolls and felts to seal the space between the forming parts and means for evacuating this space.

2,396,695. Papermaking machinery. John E. Goodwillie, assignor to Beloit Iron Works, Beloit, Wis. Filed Feb. 25, 1944. 3 claims. (Cl. 92-43). Means for rotating corrugated disks to create a circulating envelope of stock in the chamber adjacent the forming wire.

2,396,696. Papermaking machine and method. Earl E. Berry, assignor to Beloit Iron Works, Beloit, Wis. Filed Feb. 25, 1944. 12 claims. (Cl. 92-43). Partitions walls separate the formation zones into superimposed compartments; means are provided for flowing stock in opposite directions through the top and bottom compartments along the lengths of the cylinder molds and through the intermediate compartments radially onto the molds.

2,396,946. Method and apparatus for applying thermoplastic material to sheets or webs. William F. Grupe, assignor to Interchemical Corporation, New York, N. Y. Filed Aug. 18, 1939. 8 claims. (Cl. 117-65).

2,396,996. Apparatus for making curved cellulosic sheets. Orcutt W. Frost and Grant S. Willey, assignors to United States Gypsum Company, Chicago, Ill. Filed Aug. 18, 1943. 8 claims. (Cl. 18-19). A board bending machine.

2,397,041. Carton. Vincent R. Pantalone, assignor to National Folding Box Company, New Haven, Conn. Filed Sept. 25, 1943. 10 claims. (Cl. 229-6). Carton formed from a single blank of paper.

MARCH 26, 1946

2,397,093. Coating composition. Camille Dreyfus and Bjorn Andersen, assignors to Celanese Corporation of America, New York, N. Y. Filed Dec. 12, 1942. 6 claims. (Cl. 260-27). A waterproofing composition contains polystyrene, wax, a second thermoplastic resin, and a plasticizer.

2,397,135. Carton. William P. Frankenstein, Cincinnati, Ohio. Filed Oct. 20, 1941. 10 claims. (Cl. 229-34).

2,397,198. Closure for valves of bags. Axel Norvig, assignor to St. Regis Paper Company, New York, N. Y. Filed Sept. 1, 1943. 3 claims. (Cl. 229-62.5).

2,397,307. Decolorizing protein. Merrill A. Youtz, assignor to The Drackett Company, Cincinnati, Ohio. Filed Oct. 2, 1942. 14 claims. (Cl. 260-112). Soybean protein suitable for paper coatings is obtained by treating the substantially oil-free meal with aqueous sulphur dioxide without heating until a constant pH value of from 4 to 6 is attained, extracting the product with an alkaline solution, and precipitating the protein by sulphur dioxide.

2,397,353. Box. Erwin Herz, New York, N. Y. Filed July 13, 1944. 2 claims. (Cl. 229-8). A right-angled blank to be folded into a closed box.

Empire TAPPI Meets in Fulton

The Syracuse-Fulton Group of the Empire State Section of the Technical Association of the Pulp and Paper Industry met at the Fulton Chamber of Commerce on April 24th in cooperation with the New York-Canadian Superintendents' Division. At this dinner meeting K. J. MacKenzie, Assistant Superintendent of Paper Mills, Eastman Kodak Company, Rochester, New York, presented a paper on "The Part a Superintendent Should Play in Developing and Sponsoring Harmonious and Cooperative Employer-Employee Relations."

In 1944 Mr. MacKenzie won the First Prize Bolton Award for this essay which contains many practical suggestions for establishing harmonious labor relations and mitigating grievances arising from errors committed by both management and labor.

Those present included: A. Alcombrick, G. Baker, E. Blakeslee, W. B. Colitre, Mr. Carlson, A. J. Cross, J. W. Couture, P. Dann, L. Flick, E. Foster, A. J. Felton, E. A. Godfrey, I. Gehring, E. Gschwender, H. Goodman, D. Kesterke, W. Kitson, F. J. Keil, G. Hansen, G. Howe, G. Hill, O. Hughes, A. L. Julin, B. Larner, H. Lehon, H. Lynch, R. G. McGivney, W. H. Midgley, K. J. MacKenzie, R. Mann, G. Nicholson, L. Nissen, Mr. O'Brien, C. Parsons, W. P. Pickles, W. G. Pratt, H. M. Rice, E. M. Root, J. R. Stebbins, B. Seeber, W. Stauring, W. Turner, R. F. Vokes, H. R. Wheeler, F. White, R. Worrell.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Arne O. Berglund, Vice-President, Fylgid Printing Co., Tunnelgatan 3, Stockholm, Sweden, a Fellow of the Swedish-American Foundation, studying at Yale University, New Haven, Connecticut.

Walter H. Birchard, Assistant Chief Chemist, Fraser Companies Ltd., Edmundston, N. B., Canada, a 1923 graduate of Queen's University. Chairman, Technical Section, Canadian Pulp & Paper Association.

Jacob van Houtum, Worksengineer, N. V. Papierfabrieken van Houtum en Palm, Ugchelen, Holland, a 1942 graduate of Technical University at Darmstadt.

TAPPI Notes

John C. Plankinton, Research Chemist, Crown Zellerbach Corp., Camas, Washington, a 1939 graduate of Oregon State College.

James E. Sullivan, Laboratory Supervisor, McLaurin-Jones Company, Brookfield, Massachusetts, a 1937 graduate of Holy Cross College.

Derek McLean Wyllie, Chief Chemist, T. B. Ford Ltd., Snakeley Mill, Loudwater, High Wycombe, Bucks., England, a 1939 graduate of the Imperial College of Science.

Carlos Zappert, Chief Engineer, Industrias Klabin do Parana de Celulose S/A, Monte Alegre, Parana, Brazil, a 1925 graduate of Technical High School, Vienna.

Robert H. MacClaren, Chemical Engineer, Eastman Kodak Company, Rochester, New York, a 1935 graduate of the University of Michigan.

Robert R. Marriott, Technical Supervisor, Crown Zellerbach Corp., Port Townsend, Washington, a 1937 graduate of the University of Washington.

Rev. Joseph J. Molloy, S. J., Head of the Department of Chemistry, St. Joseph's College, Philadelphia 31, Pennsylvania, a 1929 graduate of Boston College.

Norberto Neumann, Student, University of Maine, Orono, Maine, a 1945 graduate of the University of Buenos Aires.

Alistair W. Pirie, Mill Manager, Vegetable Parchment Mills (Delcroix) Ltd., St. Mary Cray, Orpington, Kent, England, a 1921 graduate of Universite de Grenoble.

Kenneth Proctor, Paper Tester, Hollingsworth & Whitney Co., Winslow, Maine. Attended Colby Col.

D. Stewart Quern, Technical Representative, Becco Sales Corp., Buffalo, New York, a 1925 graduate of Vanderbilt University.

Pierre Rosset, Chief Engineer, Cartonneries de la Rochette, Paris, France, a 1921 graduate of Paper School, Universite of Grenoble.

James H. Snyder, Sulphite Superintendent, Maine Seaboard Paper Co., Bucksport, Maine. Attended the University of New Hampshire.

Andrew G. Stewart, Technical Superintendent, Bertrams Ltd., St. Katherine's Works, Edinburgh, Scotland, a 1923 graduate of Heriot-Watt College.

Donald A. Taylor, Salesman, Perkins-Goodwin Co., 30 Rockefeller Plaza, New York, N. Y. Attended St. Michaels College.

FOR BANNER PAPER SALES
IN THE VERY HEART OF
INDUSTRIAL AMERICA . .

SELL THROUGH

The Central Ohio Paper Co.

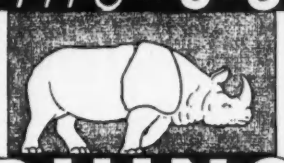
PAPER MERCHANTS
AND CONVERTERS
SINCE 1875

Accepted in this area for 70 years as steady, reliable suppliers of paper products, we enjoy a rich market for sales. We convert large quantities of envelopes and school supplies. We also laminate, coat or impregnate paper, cellulose film, foil, acetate, cloth and similar materials.

This continued growth and recognized leadership in the richest industrial area in the world, qualifies us to do a sales job for you. From our purchasing office in Columbus, through eight warehousing divisions a vigorous sales staff bears the banner of quality and integrity to receptive consumers.

THE CENTRAL OHIO PAPER COMPANY
226 NORTH FIFTH STREET - COLUMBUS 16, OHIO
Detroit Cleveland Pittsburgh Dayton
Indianapolis Toledo Charleston

The SONOCO



RHINO CORE
NON-RETURNABLE

An extremely tough and practical core of tested strength, on which we have maintained quality standards and adequate production. . . . Has wide range of uses where practical to use non-returnable type.

RETURNABLE CORES

Grade A—Heavy Duty Metal Ends—Fibre Stock Construction—strong, rugged, hard finish.

Grade B—"All Purpose Metal" Ends—Heavy Laminated Paper Construction.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

SHIPPING POINTS: LOWELL, MASS. HARTSVILLE, S. C.

DEPENDABLE SOURCE OF SUPPLY

Week's Record of Trends in The Paper and Pulp Market

Office of the PAPER TRADE JOURNAL,
Wednesday, May 8, 1946.

Demand for all grades of paper and paperboard remains at record levels, with little relief expected before next fall. Production of paper and paperboard for the first quarter of this year aggregated 4,580,000 tons, or at an annual rate of slightly under 18,300,000 tons. Increasing supplies continue to fall short of peak demands for most items. Supply of book paper is nearing the critical state because of record demand. Book paper users are urged to voluntarily reduce weights of paper used to standards set during the war.

Paperboard mill operations are hampered by the coal shortage while demand for board further outstrips supply. Tissue, specialty papers output up, but orders received are ahead of production. Inventories are above last year's total for this quarter. Kraft wrapping paper output above orders received for the first quarter. Shipments and inventories are reported above totals for the corresponding period of 1945. The newsprint situation is expected to show some improvement by fall. Imports from northern Europe and Canada will bolster low supplies on hand.

Paper and paperboard production soared to 1,635,996 tons in March, some 63,000 tons over the previous post-war record month of October 1945, according to the last monthly report by the Bureau of the Census. The most important increase occurred in container board which jumped 60,000 tons during the month. In coarse paper a 40,000 tons increase was noted in the March figure. Printing paper figures also showed encouraging improvement. Comparisons on a daily average basis are even more striking. The March average is five percent greater than the February average. The principal change is in the better operating rate of mills which produce their own pulp.

The index of general business activity for the week ended April 27 declined to 124.6 from 125.9 in the previous week, compared with 146.4 for the corresponding week in 1945. The index of paperboard production fell to 154.7 from 165.0 in the previous week, compared with 157.3 for the corresponding week in 1945.

Paper production for the week ended April 27 was estimated at 100.6 percent, compared with 102.5 for the preceding week, with 87.0 for the corresponding week in 1945, with 89.8 for 1944, with 85.8 for 1943, and with 99.8 percent for the corresponding week in 1942.

Paperboard production for the week ended April 27 was 95.0 percent, compared with 101.0 percent for the preceding week, with 99.0 for the corresponding week in 1945, with 98.0 for 1944, with 89.0 for 1943, and with 90.0 percent for the corresponding week in 1942.

Wood Pulp

Wood pulp production reached 916,281 tons in March, 140,000 tons greater than the February figure and substantially above any other post-war month. All but one grade showed increases, the largest being in unbleached sulphate wood pulp which jumped from 254,317 tons in February to 322,006 tons in March.

Wood pulp consumption also established a new post-war monthly record at 1,049,574 tons. The greatest tonnage increase occurred in unbleached sulphate. The high consumption was obtained by a 45,000 ton withdrawal of wood pulp from paper and board mill inventories. The withdrawals occurred in imported wood pulp. Mill holdings of domestic market pulp increased over 5,000 tons during the month.

Rags

Paperstock dealers are apparently contracting for large quantities of cotton cuttings, old baggings, old webbings and other waste materials in the British markets, because of the noticeable increase in these movements from the United Kingdom. Some lots of old hemp cuttings have reached here from India, and a limited amount has been contracted for in the Latin American markets, but the shipments from England are steadily increasing.

Buying of new cotton cuttings continues to be active at ceiling prices. Demand for old cotton rags is steady. All consumers of old rags are reported buying actively. Some roofing felt mills report inability to purchase all the tonnage required. Prices are firm at ceiling levels.

Old Rope and Bagging

Demand for old rope continues insistent for Manila and Sisal, with other hard fibers steady. No material change in the old bagging market has been reported at this date. Buying continues light for scrap bagging. Trading in No. 1 gunny is reported fair to moderate. All prices are unchanged.

Waste Paper

Receipts of waste paper were 90,000 tons higher in March than in February, which permitted some inventory rebuilding. Demand continues heavy in view of continued excess of demand over supplies of market pulp. High rate of paperboard output in April precludes any substantial easing in waste paper supply situation.

OPA Lifts Ceiling On Coated Sheathing

WASHINGTON, D. C.—A price increase to encourage needed production of asphalt-coated insulating sheathing for the veterans' housing program was announced today by the Office of Price Administration.

The action, effective May 3, permits an advance over current maximum prices for 25/32-inch sheathing of $4.00 per thousand square feet of surface area. Resellers not subjected to area pricing orders are permitted to pass the actual dollar-and-cent increase to consumers. Resellers subject to area pricing orders will have their ability to absorb the increase considered by appropriate OPA district offices.

Studies made by OPA of the manufacturers' earning position showed most were not covering total costs to manufacture and sell this sheathing although their total line of insulation board products was returning better than the average earnings of the 1936-1939 base period. Because of unfavorable profits in making the asphalt coated sheathing, the producers have diverted materials and facilities to the production of half-inch insulation board which is made on the same machines. As a result, with several plants discontinuing production of sheathing, volume has been declining.

Consideration also was given by OPA to individual price adjustments, but the agency found that this would disrupt the industry's pricing system and result in different prices at any one location for a standardized product. The industry-wide increase, however, assures uniform prices at delivery points.

Ross Establishes for Himself As the Paper Center, Inc.

Bernard H. Ross, a prominent executive in the paper merchandising field, has completed the formation of his own firm, The Paper Center, Incorporated, to offer a new and unusual service in the merchandising of printing, packaging and specialty papers. For the past seven years Mr. Ross served as Sales Promotion Manager of the Milton Paper Company and for the preceding five years was sales manager of the Shapiro Paper Corporation. Pending completion of alterations at permanent quarters at 18 John Street, the Paper Center is temporarily located at 126 East 59th Street, New York.

Col. Johnson Rejoins Hazen

HOLYOKE, Mass.—Lawrence Edward Johnson, has rejoined the Hazen Paper company as a salesman after having been recently released from the army. A former lieutenant-colonel, Johnson completed 47 months of service. He saw action with the 13th air force in the Pacific theater.

The RIGHT Combination

Without the right combination you might have to resort to TNT to open the safe.

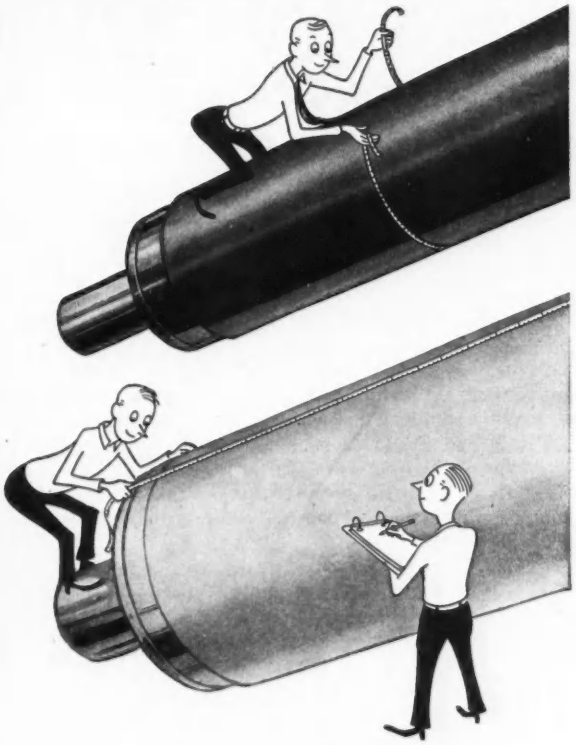
Lack of the right combination of factors might be equally as disastrous in choosing a location for your new plant.

Knowing where the good sites are, knowing local conditions, knowing the other factors which will contribute to success for your operations—is our full-time work. Long experience in these matters enables our trained specialists to give you expert advice.

You'll save valuable time and money, too, when you use our services. All negotiations are held in strict confidence and your request for information will not obligate you in any way. Simply address:

Dallas T. Daily, General Industrial Agent
Seaboard Air Line Railway, Norfolk 10, Virginia

SEABOARD
AIR LINE RAILWAY
THROUGH THE HEART OF THE SOUTH



Butterworth Rolls are Made to Specification

Butterworth Calender Rolls come in all sizes to meet every calendering need. Regular sizes—46" to 66" face; 12" to 13" diameter. Also made in sizes up to 158" face and 30" diameter on special order.

With Butterworth Calender Rolls, you get exactly the desired finish—finest long staple cotton rolls for any make of calender . . . special cotton rolls for super-calender work . . . finest quality paper rolls for super and glassine calenders . . . special rolls for embossing. Butterworth Calender Rolls are made by a special process and pretested for hardness, smoothness and density to meet the Butterworth standard of quality.

For full information, write or call H. W. Butterworth & Sons Company, Philadelphia 25, Pa. — Textile Finishing Machinery Company Division, Providence, R. I. : : Charlotte, N. C., 1211 Johnston Bldg. : : In Canada — W. J. Westaway Co., Hamilton, Ont.

Butterworth CALENDER ROLLS

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, May 8, 1946.

BLANC FIXE—Market reported steady for the week. Demand is reported fair. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton, f.o.b. works.

BLEACHING POWDER—Current demand is very active. Supply situation is reported favorable at this date. Quotations are unchanged. Prices on bleaching powder range from $2.50 to $3.10 per 100 pounds, in drums, car lots, at works.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 33 cents per pound; 2,000 pounds, 33¼ cents per pound; less than 2,000 pounds, 33¾ cents per pound, f.o.b. shipping point. Imported, 33 cents per pound.

CAUSTIC SODA—Demand very heavy. Production large, but deliveries slow. Market tight. Supply of drums short. Solid caustic soda is quoted at $2.30 per 100 pounds; flaked and ground is quoted at $2.70 to $2.95 per 100 pounds.

CHINA CLAY—Moderate demand reported. Quotations remain unchanged. Supply short. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Demand heavy but essential paper requirements fully met. Quotations unchanged. Chlorine is currently quoted at $2.00 to $2.25 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—No offerings and sales. "G" gum rosin is quoted at $6.74 per 100 pounds, in barrels, at Savannah; "FF" rosin at $6.70 per 100 pounds in barrels, at New York; seventy per cent gum rosin size at $6.95 per 100 pounds, f.o.b. works.

SALT CAKE—Quotations on salt cake are reported unchanged for the current week. Current demand is relatively heavy. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Heavy demand continues for all-over requirements. Market remains tight with demand above output. Bulk lot shipments steady. Bagged lots still slow. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.95; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Corn market restricted due to small supply. Prices steady. Starch prices continue unchanged. The pearl grade is quoted at $3.72 per 100 pounds; powdered starch at $3.83 per 100 pounds; all prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA—Demand reported active. Supply situation improving. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.35 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is currently quoted at $1.75 to $2.00 per 100 pounds, in bags, at works.

SULPHUR—Quotations on sulphur continue to conform to prevailing market prices. Demand active. Annual contracts are quoted at $16 per long ton, f.o.b. mines; the price at Gulf Ports is $17.50 per long ton.

TALC—Prices on talc continue unchanged. Demand good. Domestic grades are currently quoted at from $16 to $30 per ton at mines; Canadian at $24 to $30 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—

Roll, contract	*$67.00	@	—
Sheets	75.00	@	—

* OPA Maximum Price.

Kraft—per cwt.—Carload Quantities Zone A, Delivered

Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—

* OPA Manufacturers' Prices.

Tissues—Per Ream—Carlots

White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—

Toilet—1 M. Sheets—Per Case

Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—

Paper Towels, Per Case—

Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—

Manila—per cwt.—C. l. f. a.

No. 1 Jute	11.25	@	—
No. 1 Manila 35 lb.	6.00	"	7.00

Boards, per ton—

News	*$54.00	@	—
Chip	*54.00	@	—
Sgl. Mla. L1. Chip	*65.00	@	—
White Pat. Coated	*79.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.10@$46.00	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items
Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.75	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper
Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@$15.50
No. 2 Glossy Coated	12.40 "	14.00
No. 3 Glossy Coated	11.60 "	13.25
No. 4 Glossy Coated	11.15 "	12.75
No. 1 Antique (watermarked)	10.25 "	11.75
No. 2 Offset	9.60 "	11.00
A Grade E. F.	9.35 "	10.75
A Grade S. & S. C.	9.60 "	11.00
B Grade E. F.	8.85 "	10.25
B Grade S. C.	9.10 "	10.50
C Grade E. F.	8.55 "	9.75
C Grade S. C.	8.80 "	10.00
D Grade E. F.	8.25 "	9.50
D Grade S. & S. C.	8.50 "	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$94.00
Unbl. Softwood Sulphite	82.00
Bl. Hardwood Sulphite	91.50
Unbl. Hardwood Sulphite	79.50
Bl. Glassine Sulphite	97.00
Unbl. Glassine Sulphite	86.00
N. Bleached Sulphate	94.00
S. Bleached Sulphate	88.00
N. Semi-Bleached Sulphate	89.00
S. Semi-Bleached Sulphate	83.00
N. Unbl. Sulphate	76.00
S. Unbl. Sulphate	69.50
Bl. Soda	84.00
Unbl. Soda	80.00
Groundwood	58.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$12.50
Lake Central	12.50
Southern	15.00
West Coast (in area)	9.50
West Coast (out area)	15.50

	50%-80% Air Dry Weight
Northeast	$10.50
Lake Central	10.50
Southern	13.00
West Coast (in area)	8.50
West Coast (out area)	14.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$7.50
Lake Central	7.50
Southern	10.00
West Coast (in area)	6.50
West Coast (out area)	12.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

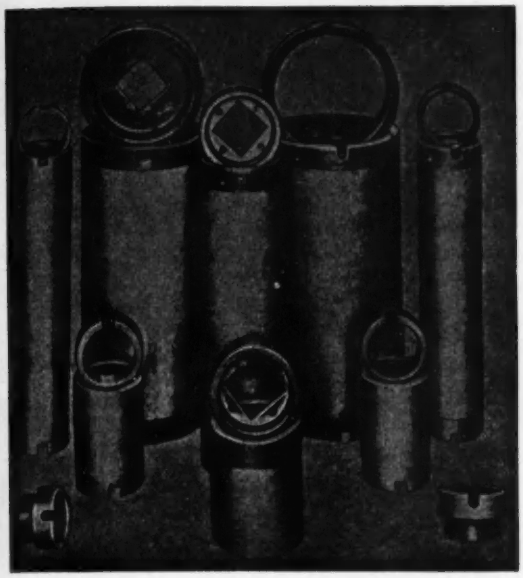
Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.



ELIXMAN

CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

CORES

Samples of caps or cores will be gladly submitted

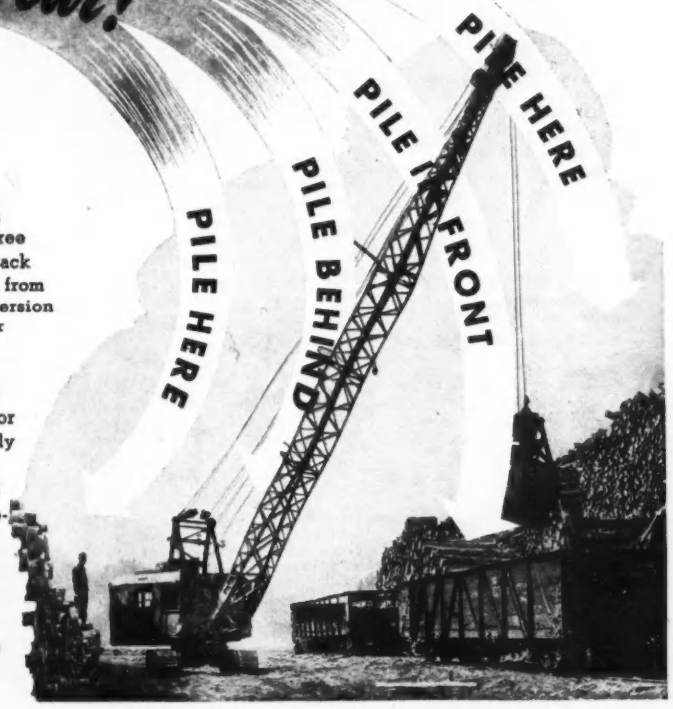
ELIXMAN PAPER CORE COMPANY, INC.

CORINTH, N. Y.

Unload a whole train of pulp... without moving a car!

YOUR NORTHWEST can travel up and down a whole train of cars unloading as it goes. There is no time lost in moving cars out of the way to get to the next one as there is with end unloading by track equipment, and you are free from the expense necessary for the double line of track to make it possible for the locomotive crane to load from the side. Crawler travel combined with easy conversion from a pulp grapple to a hook block, clamshell or sling gives you a machine that can be kept busy cutting costs all day long, every day. It goes anywhere, can be routed from job to job and will serve at the power plant handling coal or ashes, or at the loading dock handling rolls or cases equally as well as in the pulp yard.

You can plan to modernize now! There is a Northwest of a capacity for every paper mill problem. Let us send you details.



NORTHWEST ENGINEERING COMPANY
1815 Steger Building 28 E. Jackson Boulevard
Chicago 4, Illinois

NORTHWEST

Old Rags

White, No. 1—			
Repacked	*3.85	@	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Thirds and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.30	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

Pre-War Quotations

All Prices Nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.25	@	3.30
Wool Tares, light	3.25	"	3.50
Wool Tares, heavy	3.50	"	3.75
Bright Bagging	3.25	"	3.50
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	1.50	"	—

* OPA Maximum Prices.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
No. 1 Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Mixed Books	1.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Mixed Ledger, colored	2.00	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.95	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
Old Corrugated Containers	.82½	"	—
Mill Wrappers	1.10	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¾	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¾
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¼
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable Shredding	.01¾
Fancy Percales	.04½
New Black Soft	.03¼
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¼

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	@	3.50
No. 1 Clean Bright—Sisal Strings	.04	"	—
No. 2 Clean Bright—Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.00	"	3.25
South America	—	"	3.25
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¾	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06¾	"	.06¾
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03¼
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached Blue Cheviots	.06½	"	.06¾
Fancy	.05½	"	.06
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.05¼	"	.02½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¼	"	.06½

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—
Miscellaneous	3.20	"	—
White No. 2—			
Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.50
Thirds and Blues, Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.30	"	4.00
Roofing Stock—			
No. 1	1.55	"	—
No. 2	1.45	"	—
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.85	"	—
Quality B	1.80	"	—
Quality C	.95	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

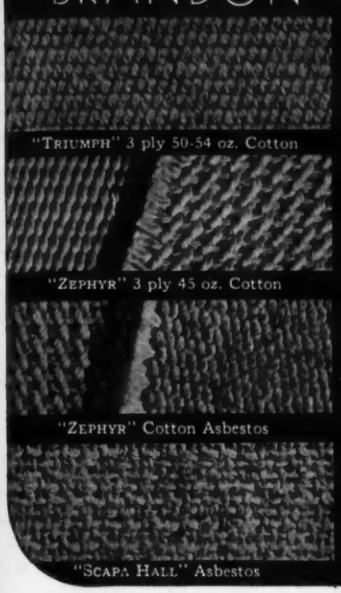
Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—

BRANDON



YOUR CHOICE of ANY FELT *from one source*

FITCHBURG

BRANDON DRYER FELTS

Morey Paper Mill Supply Co.

309 SOUTH ST., FITCHBURG, MASSACHUSETTS

FITCHBURG DUCK MILLS ESTABLISHED 1844. DRYER FELTS

Sole Distributors for

WOODWARD, BALDWIN & CO., BALTIMORE, MD.

West Virginia Pulp and Paper Company

230 Park Ave. New York
35 East Wacker Drive Chicago
Public Ledger Building Philadelphia, Pa.
503 Market St. San Francisco, Cal.

Manufacturers of

ENGLISH FINISH BOOK
SUPERCALENDERED BOOK and LITHOGRAPHIC PAPERS

Offset, Envelope, Bond, Writing, Mimeograph, Ledger, Eggshell, Cover and Music Papers, Index Bristol, Post Card and Label Papers, Machine Coated

HIGH GRADE COATED BOOK

• • • •

KRAFT WRAPPING AND KRAFT ENVELOPE
KRAFT LINER BOARD
BLEACHED SULPHITE AND SODA PULP
BLEACHED AND UNBLEACHED KRAFT PULP

MILLS:

Mechanicville, New York
Luke, Maryland
Covington, Virginia
Tyrone, Pennsylvania
Williamsburg, Pennsylvania
Charleston, South Carolina

J. Andersen & Company

21 East 40th Street

NEW YORK

Importers of Pulp

BLEACHED AND UNBLEACHED SULPHITE, KRAFT PULP AND GROUND WOOD

Paper and Paper Stock Imports At New York and Other Ports

NEWSPRINT

N. Y. News Syndicate Co., Colabee, Baie Comeau, Que., 7518 rolls.

PRINTING PAPER

Oxford University Press, Netherlands Victory, Liverpool, 31 cs.

PAPERHANGINGS

Manufacturers Trust Co., Kelso Victory, London, 54 bls.

FILTER PAPER

H. Reeve Angel & Co. Inc., Kelso Victory, London, 29 cs.

H. Reeve Angel & Co. Inc., Empire Pendennis, London, 12 cs.

DRAWING PAPER

H. Reeve Angel & Co. Inc., Empire Pendennis, London, 1 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Netherlands Victory, Liverpool, 49 cs. (duplex), 38 cs. (duplex and collodion coated).

B. F. Drakenfeld & Co., Ernebank, Liverpool, 6 cs. (simplex), 10 cs. (duplex), 56 cs. (simplex and duplex).

DECALCOMANIAS

Sellers Transportation Co., Netherlands Victory, Liverpool, 1 cs. (ceramic transfers).

TISSUE PAPER

B. F. Drakenfeld & Co., Netherlands Victory, Liverpool, 15 cs. (pottery).

G. F. Malcolm, Netherlands Victory, Liverpool, 31 cs. (gauze carbonizing).

B. F. Drakenfeld & Co., Netherlands Victory, Liverpool, 3 cs.

PHOTO PAPER

(———), Empire Pendennis, London, 3 cs.

PAINTED PAPER

Rohner Gehrig & Co., Indiana, Havre, 3 cs.

Intermaritime Forwarding Co., Indiana, Havre, 1 cs.

RAGS, BAGGINGS, ETC.

Castle & Overton, Inc., Winthrop Victory, Antwerp, 59 bls. bagging.

E. J. Keller Co., Inc., Winthrop Victory, Antwerp, 45 bls. rags.

New England Waste Co., Rio Branco, Pernambuco, 357 bls. cotton fly waste.

Tradesmans National Bank Trust Co., Kelso Victory, London, 61 bls. rags.

National City Bank, Kelso Victory, London, 79 bls. rags.

Americale Trading Co. Inc., Netherlands Victory, Liverpool, 9 bls. threadwaste.

Cleveland Trust Co., Netherlands Victory, Liverpool, 22 bls. wool rags.

Harold Roberts, Netherlands Victory, Liverpool, 9 bls. wool rags.

Franklin & Co., Netherlands Victory, Liverpool, 9 bls. wool rags.

E. Butterworth & Co., Inc., Netherlands Victory, Liverpool, 37 bls. newcuttings, 40 bls. cotton waste.

Tradesmans National Bank Trust Co., Ernebank, Liverpool, 188 bls. rags.

(———), Ernebank, Liverpool, 100 bls. wool rags, 56 bls. threadwaste.

Chase National Bank, Ernebank, Liverpool, 98 bls. old bagging.

State Street Trust Co., Barnard Victory, Glasgow, 50 bls. paperstock.

(———), Barnard Victory, Glasgow, 82 bls. paperstock, 65 bls. old bagging.

H. G. Lichtenstein Co., Barnard Victory, Glasgow, 76 bls. paperstock, 122 bls. old bagging.

Continental Bank Trust Co., Barnard Victory, Glasgow, 117 bls. old cotton rags.

Tradesmans National Bank Trust Co., Barnard Victory, Glasgow, 1270 bls. paperstock.

Continental Bank Trust Co., Empire Pendennis, London, 150 bls. old scrap jute bagging; 86 bls. khaki rags.

Textile Paper Supply Co. Inc., Philip Schuyler, Cochin, 100 bls. cotton waste.

Railway Supply & Manufacturing Co., Philip Schuyler, Cochin, 200 bls. cotton waste.

Castle & Overton, Inc., Empire Pendennis, London, 62 bls. old jute bagging.

C. Kutz, Philip Schuyler, Cochin, 300 bls. cotton waste.

Ayres W. C. Jones, Inc., Philip Schuyler, Cochin, 750 bls. cotton waste.

Lush Cotton Products Co. Ltd., Philip Schuyler, Bombay, 250 bls. cotton waste.

Riverside Mills, Philip Schuyler, Bombay, 678 bls. cotton waste.

Buffalo Belt & Felt Corp., Philip Schuyler, Bombay, 155 bls. cotton waste.

S. H. Waldestein & Co., Philip Schuyler, Bombay, 134 bls. cotton waste.

Lush Cotton Products Co. Ltd., Philip Schuyler, Bombay, 50 bls. cotton waste.

Padawer & Co., Philip Schuyler, Bombay, 500 bls. cotton waste.

Empire Fibres, Ins., Philip Schuyleer, Bombay, 113 bls. cotton waste.

Automatic Waste Co., City of Avansville, Bombay, 225 bls. cotton waste.

Henry Chanin Corp., City of Avansville, Bombay, 279 bls. cotton waste.

Schimmel Trading Corp., City of Avansville, Bombay, 300 bls. cotton waste.

OLD ROPE

Loumar Textile By-Products, Inc., City of Avansville, Calcutta, 50 bls. old hemp rope cuttings.

(———), Barnard Victory, Glasgow, 65 coils.

HIDECUTTINGS

Transatlantic Animal By-Products Corp., Netherlands Victory, Liverpool, 187 bags dry hidecuttings.

E. Butterworth & Co., Inc., Netherlands Victory, Liverpool, 92 bags hidecuttings.

Atlantic Gelatin Co. Inc., Ernebank, Liverpool, 271 bags dry hidecuttings.

Transatlantic Animal By-Products Corp., Ernebank, Liverpool, 195 bags lime cured hidecuttings.

CHINA CLAY

English China Clays Sales Corp., Morris C. Feinstone, Fowey, 225 tons 2 cwt.

J. W. Higman Co., Morris C. Feinstone, Fowey, 984 tons 5 cwt.

Orono Basin Mills Sold To Striar Interests

BANGOR, Me.—Purchase of the Orono Basin Mills by operators of the Striar Shoddy Mill at Brewer has been disclosed here with the filing of a deed in Penobscot County registry. Documentary stamps indicated around $60,000 was involved in the transaction. The property was sold by the Dead River Company which passed title to land and buildings but reserved rights to power and approaches.

Formerly known as the Orono Pulp & Paper Company the plant was once operated by the Eastern Corporation of Brewer which sold it to Dead River interests represented in the recent transfer by Curtis M. Hutchins of Bangor, president.

Keyes Fibre Financing Is Quickly Oversold

PORTLAND, Me.—Firms offering the new Keyes Fibre $2,800,000 3¼ percent bond reported it quickly oversold this week. According to one report the company rejected an insurance company's offer to take the whole issue and insisted on offering part to the public. Yielding 3.05 percent at the 103 price, the sale established a new record for long term financing in Maine.

Part of the funds will be used in construction of the projected new plant at Hammond, Ind., but the bulk of the company's output will remain concentrated in the Waterville mill.

Oxford Earnings Reported At $370,000 for Quarter

RUMFORD, Me.—First quarter report of the Oxford Paper Company issued here showed net earnings of $370,040 after all charges and Federal taxes. This figure compares with the $213,711 of the same period in 1945. Federal taxes for the 1946 period totalled $268,000 as against the 1945 figure for the first quarter of $409,580.